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ALPINE PLANTS

DAVID WOOSTER

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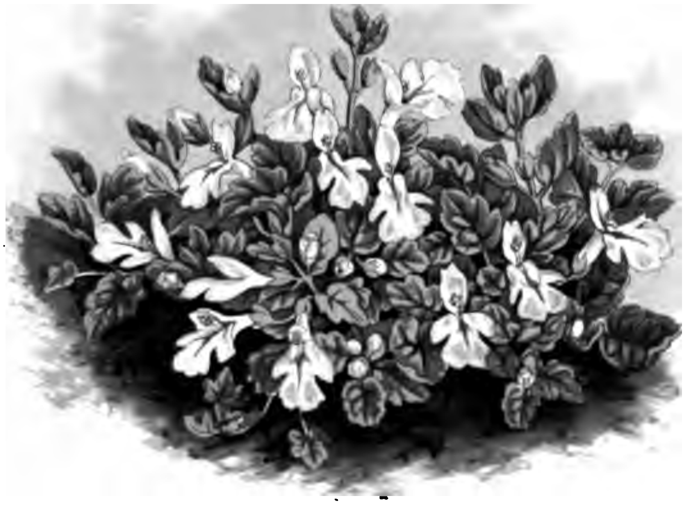

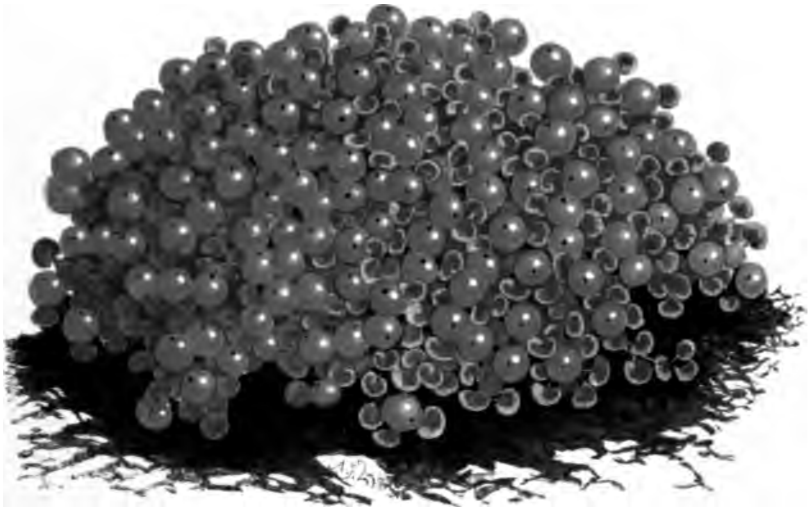

STACHYS CORSICA.

NERTERA SCAPANIOIDES.

I

ALPINE PLANTS:

FIGURES AND DESCRIPTIONS OF SOME OF

THE MOST STRIKING AND BEAUTIFUL OF

THE ALPINE FLOWERS.

EDITED BY

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ALPINE PLANTS.

STACHYS CORSICA.

PLATE I.—FIG. I.

Stàchys córsica, PERSOON. The Corsican Hedge-Nettle.
Natural Order—LABIATÆ.* The Labiate Family.

THOUGH there are a good many species of *Stàchys*, very few of them are at all ornamental; and most of these are more remarkable for their leaves than for the beauty of their flowers. *S. lanàta* is now, perhaps, the best known species, as it has been for some time much used as an edging plant, especially in our public parks and gardens, where a striking effect is produced by the densely woolly silvery stems and leaves. *S. coccínea* has spikes of brilliant scarlet flowers.

S. córsica, which produces its small pink flowers in July and August, was introduced from Corsica in 1823. It grows about six inches high, thrives in common garden soil (as do all the other species), and is readily increased by division. There is a variety with white flowers.

The generic name (*Stàchys*, a spike) is given in allusion to the flowers being produced in spikes.

The figure on our plate is taken from a plant obligingly forwarded by Mr. Niven, Curator of the Botanic Gardens, Hull.

---

* For a description of the order *Labiàtæ*, see vol. i., p. 64.

NERTERA SCAPANIOIDES.

PLATE I.—FIG. II.

Nértera scapanioïdes. The Scapania-like Nertera.
Natural Order—RUBIACEÆ. The Madder Family.

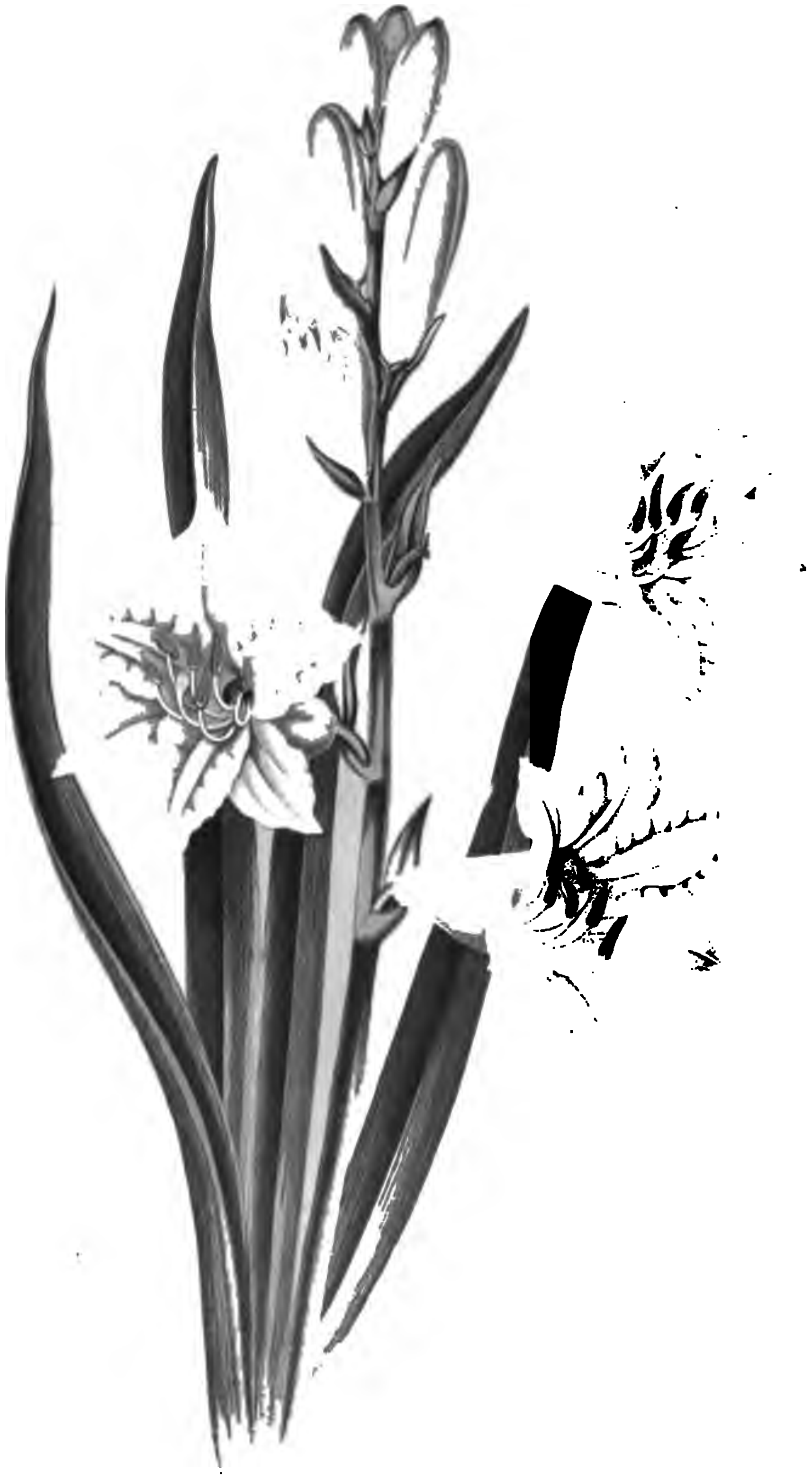
Nértera is a small genus of creeping herbaceous plants, of which one species is widely diffused in the Southern Hemisphere, the others being natives of New Zealand. They are suitable for growing on rockwork, or in large pans, and should be planted in moist sandy loam.

N. depréssa is a small plant with egg-shaped leaves and greenish inconspicuous flowers (produced in the axils of the leaves), which are succeeded by small round berries of a pretty orange colour. The plant has creeping stems which root freely and form dense dwarf tufts. It is increased by division.

N. scapanioïdes, like *N. depréssa,* grows in dense tufts, and will be seen to advantage if planted on the lower ledges of rockwork.

For an opportunity of figuring this plant I have to express my thanks to Mr. Niven.

Nértera belongs to the order *Rubiàceæ,* which is a large one, consisting of trees, shrubs, or herbaceous plants, with simple, entire, opposite or verticillate leaves and intervening stipules. In most of the plants the ovary is surrounded by the calyx, and placed below the rest of the flower: the corolla has a long tube, lined with the dilated receptacle, in which the stamens are inserted, the filaments being very short, and the anthers nearly or entirely hidden in the corolla. In many cases the segments of the calyx remain on the ripe fruit, as they do in the apple and the pear, forming what is called the eye. Most of the plants of the order are from the hotter parts of the world, especially within the tropics; but several of the genera are British weeds. There are not only many plants of great beauty in the order, but also many which possess important medicinal and useful qualities. The well-known Peruvian bark is produced by several species of the genus *Cinchòna,* of which *C. micrántha, C. Condamínea,* and *C. lanceolàta* are the best. The beautiful and delightfully fragrant *Lucùlia gratíssima* is nearly allied to *Cinchòna.* The Cape Jasmine (*Gardènia radìcans*) is another plant of the order, well known for the fragrance of its white flowers. There are also a great many very beautiful species in the genera *Bouvárdia, Burchéllia, Ixòra, Mussæ'nda, Rondelètia, Portlándia,* and *Wendlándia.* One of the most useful and important plants of the order is the Coffee-tree (*Coffèa arábica*), as its seeds furnish us with that most grateful beverage coffee. The flowers of the Coffee-tree, which are white, differ from those of the other *Rubiàceæ* in the tube of the calyx being very short, and disappearing when the ovary begins to swell; and in the filaments of the stamens being sufficiently long to allow the anthers to be seen above the throat of the corolla. The limb of the corolla is five cleft; and the style is bifid. When the flowers fall, each ovary becomes distended into a berry, or rather drupe, of a deep red colour, containing the nut, in which are two seeds, flat on one side with a deep longitudinal groove, and convex on the other, the flat sides being placed together. These seeds are the coffee in the raw state. Another very useful plant belonging to this order is that which furnishes the drug called Ipecacuanha, viz.: *Cephäèlis Ipecacuánha,* a little creeping-rooted, half herbaceous plant, with small white flowers, found in damp shady forests in Brazil. The best brown Ipecacuanha is the powdered root of this plant; but similar properties are found in the roots of other plants of this order, as in *Richardsònia ròsea* and *R. scàbra.* Ipecacuanha is also furnished by the roots of other plants belonging to other orders, as two or three South American species of *Vìola,* and a species of *Euphórbia.* The root of one species of the genus which gives the name to this order, viz.: *Rùbia* (the Madder), furnishes the most important crimson dye, Madder (the principal red dye obtained from the vegetable kingdom). The species is *R. tinctòria,* which is cultivated with success in the South of Europe, though its cultivation does not answer in England. Of the British plants which belong to this order, there are *Rùbia peregrìna,* the several species of Bedstraw (*Gàlium*), the Field Madder (*Sherárdia arvénsis*), and the sweet-scented Woodruff (*Aspérula odoràta*).



ANTHERICUM (PARADISIA) LILIASTRUM.

II

ANTHERICUM (PARADISIA) LILIASTRUM.

PLATE II.

Anthéricum (Paradísia) Liliástrum, WILLDENOW. St. Bruno's Lily.
Natural Order—ASPHODELACEÆ.[*] The Asphodel Family.

THERE are some very beautiful species of *Anthéricum* (a name applied by the Greeks to the stem of the Asphodel, which these plants resemble to a certain extent), all of which may be grown in a mixture of loam and peat, with a little sand; care, however, being taken that they are not over-watered. The shrubby species are readily increased by cuttings; and from the bulbous kinds off-sets may be obtained. Most of the kinds perfect seed.

A. Liliástrum is a very elegant plant, with fragrant white flowers, which are produced in May and June on an unbranched stem about eighteen inches high, and in form are not unlike, though much smaller than, those of the common White Lily. The beauty of the flowers is heightened by the rich orange colour of the anthers. The two varieties of this species described by Miller differ merely in size.

The plant is a native of Switzerland, whence it was introduced in 1629, and where it grows abundantly not only in alpine meadows, but even on the summits of the mountains. In this country it succeeds best in a loamy soil in a moderately moist situation, with an eastern or western exposure, and it is increased by dividing the roots in the autumn.

I have to express my acknowledgments to Mr. Niven for an opportunity of figuring this plant.

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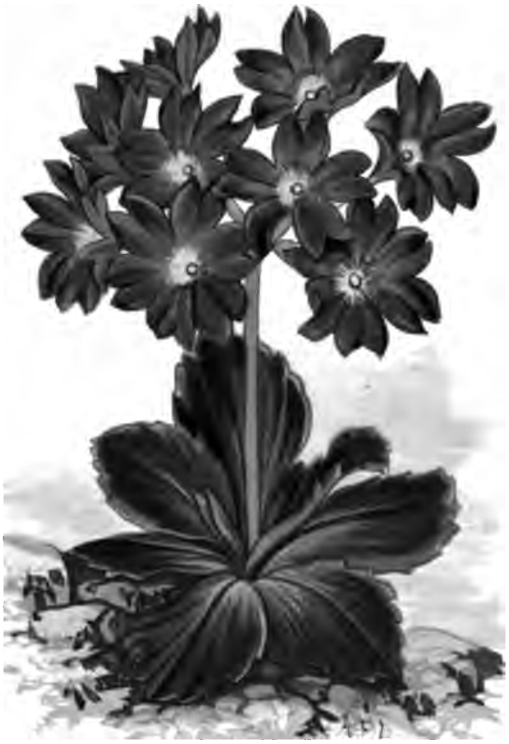
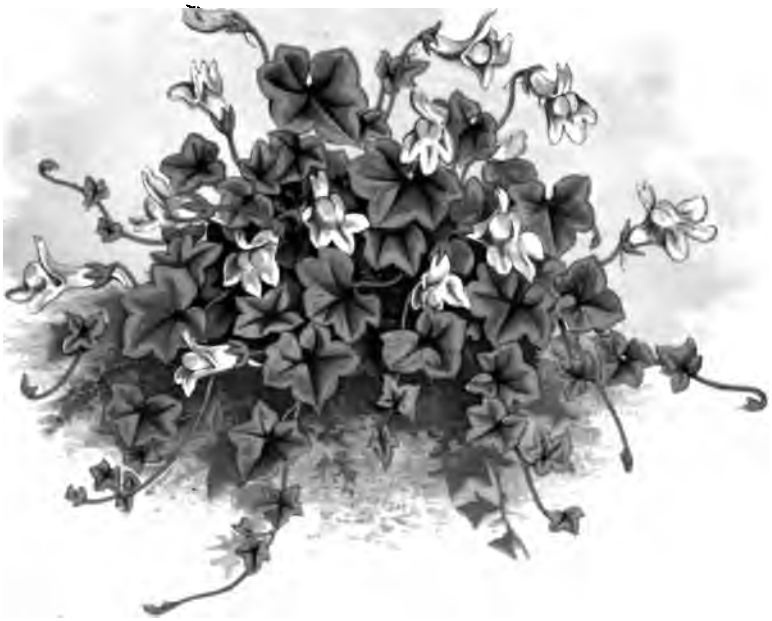
[*] The character of the order *Asphodelàceæ* will be found in vol. i., p. 57.





PRIMULA PEDEMONTANA.

LINARIA HEPATICÆFOLIA.

III

PRIMULA PIEDMONTANA.

PLATE III.—FIG. I.

Prímula Piedmontàna, SCHLEICHER. The Piedmont Primrose.
Natural Order—PRIMULACEÆ.[*] The Primrose Family.

THIS very pretty little Primrose, which was introduced from Piedmont in 1826, grows about six inches high, and produces its pink flowers from April to June. It should be grown in a mixture of peat and loam. It is readily increased by division.

LINARIA HEPATICÆFOLIA.

PLATE III.—FIG. II.

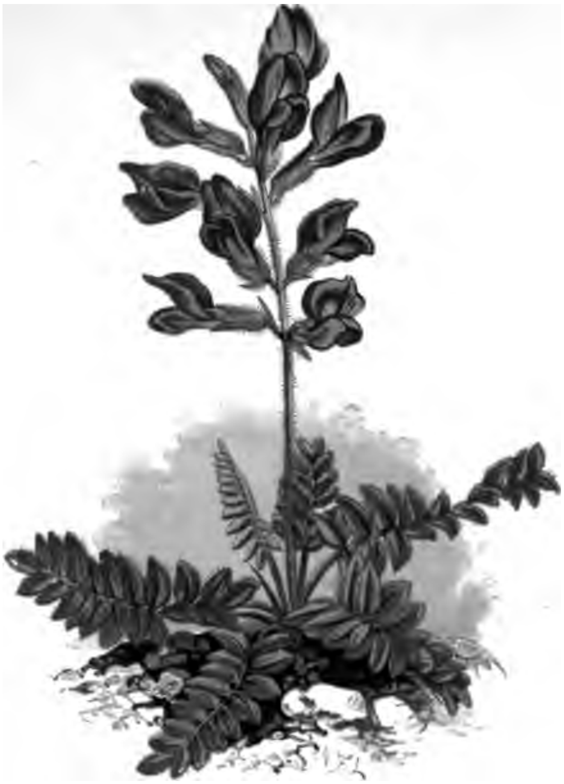
Linària hepaticæfòlia. The Hepatica-leaved Toadflax.
Natural Order—SCROPHULARIACEÆ.[†] The Figwort Family.

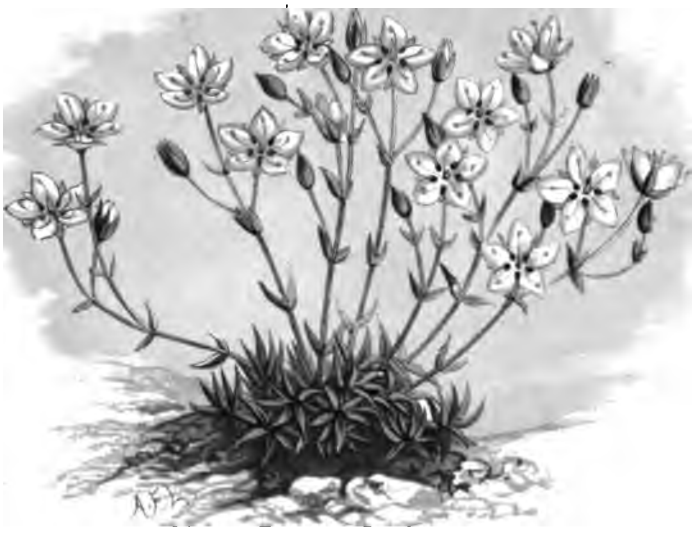
THIS little plant is very suitable for growing on the ledges of rock-work among other dwarf alpines, as it has a trailing habit; or it will form a pretty object in a pot, with the stems falling over the sides.

---

[*] The order *Primulàceæ* has been already described in vol. i., p. 14; and for other species of *Prímula,* see pp. 31, 61, 87, 122, 134, and 140.

[†] The character of the order *Scrophulariàceæ* is given in vol. i., p. 4; and for other species of *Linària,* see pp. 4 and 84.





OXYTROPIS PYRENAICA.

ARENARIA VERNA.

IV

OXYTROPIS PYRENAICA.

PLATE IV.—FIG. I.

Oxytròpis pyrenàica. The Pyrenean Oxytropis, or Mountain Milk Vetch.
Natural Order—LEGUMINOSÆ.* The Leguminous Family.

THE species forming the genus *Oxytròpis* were formerly included in that of *Astrágalus,* the Milk Vetch, from which they were separated by Professor de Candolle, who gave the name of *Oxytròpis* to his new genus, in allusion to the sharp-pointed keel of the flowers. Several of the species, of which *O. montàna* is the type, grow in low close tufts, without stems, and are, therefore, suitable for rockwork.

O. pyrenàica is a very dwarf species from the Pyrenees, having pinnate leaves, clothed with silky hairs, and purplish lilac flowers, which are produced in rather short racemes in early summer. It should be grown in sandy loam, and it may be increased either by seed or by division.

The figure on the plate is taken from a plant kindly forwarded by Mr. Niven.

---

* A description of the order *Leguminòsæ* is given in vol. i., p. 89.

ARENARIA VERNA.

PLATE IV.—FIG. II.

Arenària vèrna, LINNÆUS. The Vernal Sandwort.
Natural Order—CARYOPHYLLACEÆ.* The Pink and Carnation Family.

THE species of *Arenària* are small herbaceous plants, found chiefly in dry sandy situations and on alpine rocks. The flowers of most of the kinds are white, but there are three or four with reddish purple flowers. The seeds of many are beautiful objects for examination under the microscope. The generic name is from *arena*, sand, in which most of the species are found growing.

A. *vèrna* is a British species, found in rocky mountainous pastures in the North of England and in Wales, and not unfrequently about Edinburgh and in other places in Scotland. The root, which is perennial, strikes deeply into the crevices of the rocks, sending up numerous slender stems, from three to four inches high, thickly clothed with leaves towards the base, and terminating in few-flowered, forked panicles. The flowers appear from May to July. The plant is easily increased by seed or by division, and it is most suitable for ledges on the higher parts of rockwork.

My thanks are due to Mr. Niven for an opportunity of figuring this plant.

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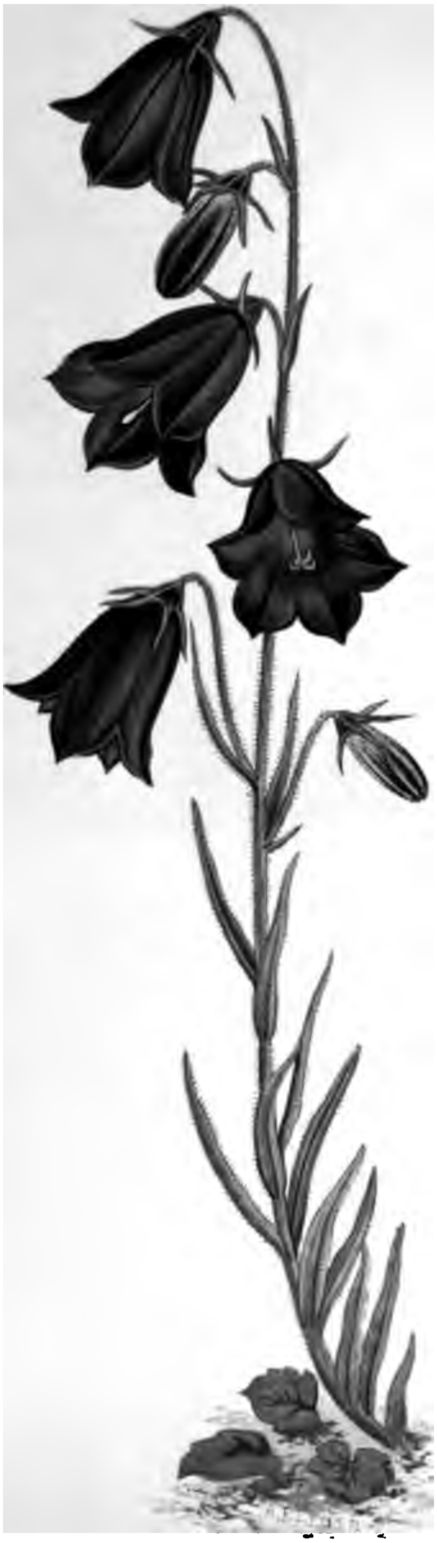
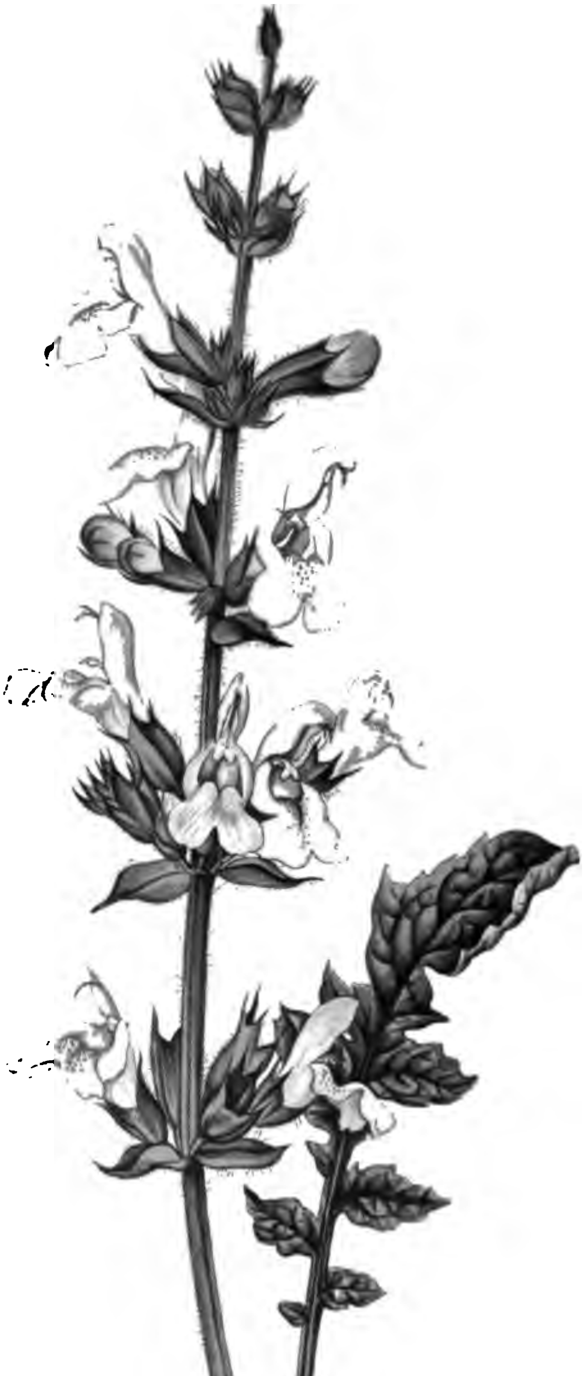
* The character of the order *Caryophyllàceæ* will be found in vol. i., p. 1.





CAMPANULA LINIFOLIA. SALVIA TARAXACIFOLIA.

V

CAMPANULA LINIFOLIA.

PLATE V.—FIG. I.

Campánula linifòlia, HÆNKE. The Flax-leaved Bell-flower.
Natural Order—CAMPANULACEÆ.* The Bell-flower Family.

THIS very neat and pretty little *Campánula* was introduced from Switzerland in 1819. It flowers from June to August. It is quite hardy, and may be grown in a pot or in the open garden. It requires a loamy soil, and it may be increased by dividing the roots.

SALVIA TARAXACIFOLIA.

PLATE V.—FIG. II.

Sálvia taraxacifòlia. The Taraxacum-leaved Sage.
Natural Order—LABIATÆ.† The Labiate Family.

Sálvia is a large genus of herbaceous plants or under-shrubs, the leaves of which have generally a rough or coarsely-wrinkled appearance, and an aromatic smell (like the common Sage), the flowers being commonly produced in spikes, two or three together, from a bract or leaf.

Some of the species are extremely ornamental as greenhouse plants, or as border flowers. They are all of easy culture, thriving in light soil, somewhat rich, and they are readily propagated by seeds, by cuttings, or by dividing the roots.

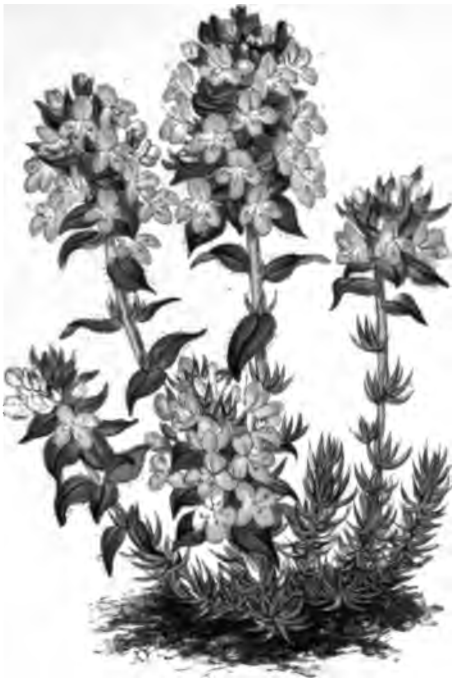
---

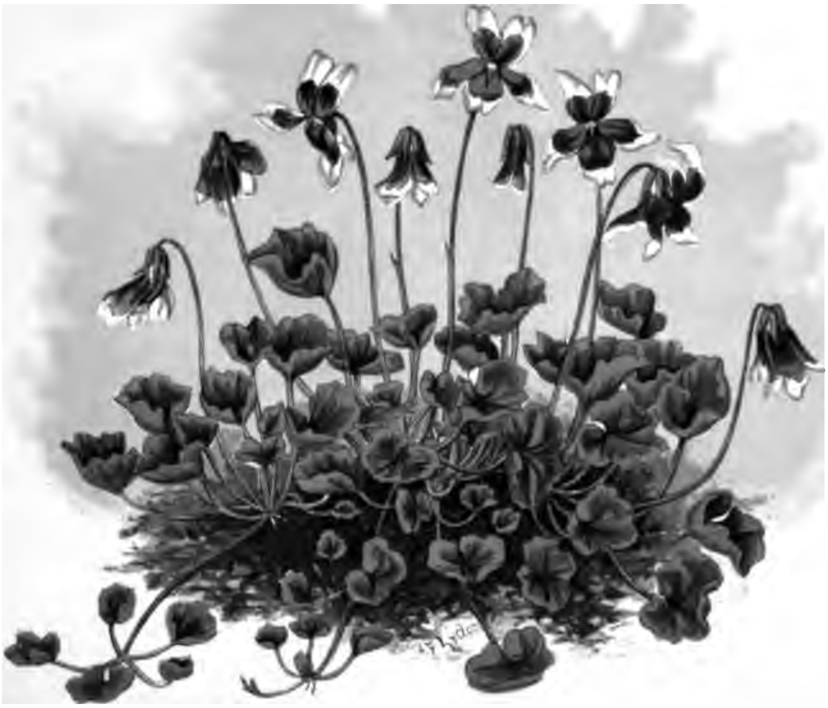
* A description of the order *Campanulàceæ* will be found in vol. i., p. 8; and for other species of *Campánula*, see pp. 8, 25, 67, 79, 107, and 120.

† The character of the order *Labiàtæ* is given in vol. i., p. 64.

Sálvia is from *salvere,* to save, in allusion to the supposed healing qualities of the Sage.

S. taraxacifòlia, which has dandelion-like leaves and pretty delicate pink flowers, should be planted in the flower-border.





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VI

THYMUS STRIATUS.

PLATE VI.—FIG. I.

Thy'mus striàtus, VAHL. The Striped Thyme.
Natural Order—LABIATÆ.* The Labiate Family.

THIS pretty little Thyme is a native of Algiers. It produces its flowers (which are of a delicate mauve) in May.

The figure on the plate is taken from a plant obligingly forwarded by Mr. Niven.

ERPETION RENIFORME.

PLATE VI.—FIG. II.

Erpètion renifórme, SWEET. The reniform Spurless Violet.
Natural Order—VIOLACEÆ. The Violet Family.

THE species forming the genus *Erpètion* (from *erpetos,* trailing, and *ion,* a violet) are elegant little plants, well adapted for rockwork, growing in sandy peat, and easily increased by separating their runners. They require, however, protection during the winter.

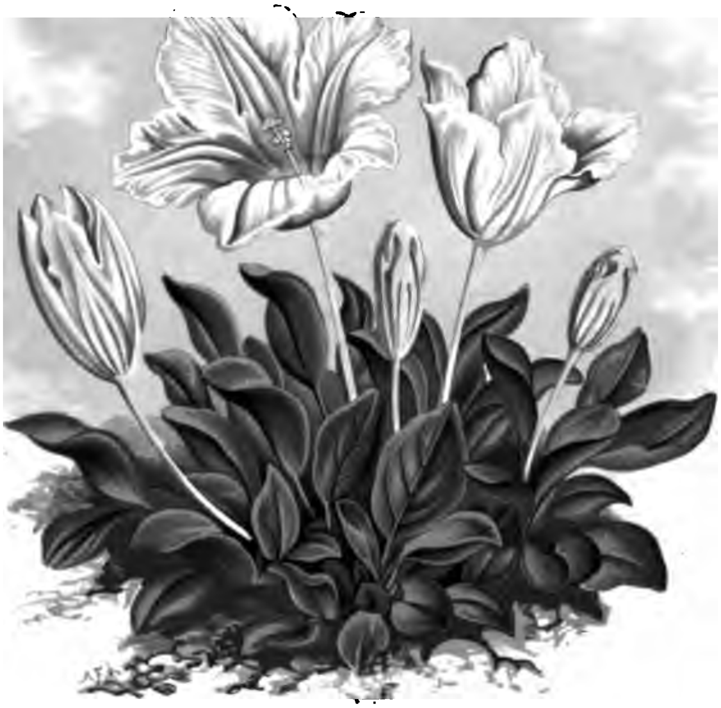
E. renifórme, which was introduced from New Holland in 1823, grows in tufts about two inches high, and produces its pretty blue and white flowers throughout the summer. It may be used as an edging plant with good effect in the flower garden.

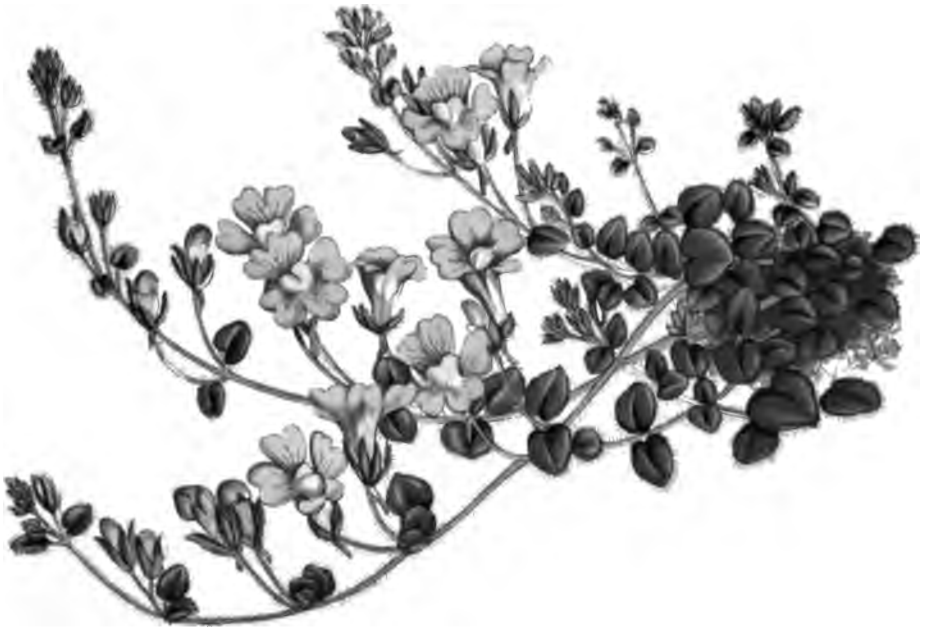
For an opportunity of figuring this plant I have to express my obligations to Mr. Niven.

---

* The order *Labiàtæ* will be found described in vol. i., p. 64.

Erpètion is included in the order *Violàceæ*, which consists, for the most part, of hardy herbaceous plants, some of which are remarkable for their delightful fragrance, others for their brilliant colours, and all for their neatness. They are natives of the temperate or cold zones of both hemispheres, often growing at great elevations above the sea. The Sweet Violet (*Viola odoràta*) and the Heart's-ease (*V. trícolor*) are known by every one, and general favourites. The medical properties of the plants in this order are found chiefly in their roots: they are more or less emetic. One kind of Ipecacuanha is obtained from the root of a Brazilian Violet.





NIEREMBERGIA RIVULARIS.

LINARIA VILLOSA.

VII

NIEREMBERGIA RIVULARIS.

PLATE VII.—FIG. I.

Nierembérgia rivulàris, MIERS. The Water Nierembergia.
Natural Order—SOLANACEÆ. The Potato Family.

ALL the species of *Nierembérgia* are exceedingly elegant when in flower. They succeed very well in the open border from May to September, producing, when planted in large masses, a very pleasing effect. They all require protection during the winter. They thrive best in light rich soil. They seldom ripen their seeds, but they are all readily propagated by cuttings.

The generic name is given in honour of John Eusebius Nieremberg, a Spanish Jesuit, the author of "A History of Nature" and other works.

N. rivulàris has slender, creeping stems, growing from four to five inches high, and producing its striking white bell-shaped flowers in July. It is a native of La Plata. It should be planted in moist sandy loam on the margins of borders, or on the lower parts of rockwork.

The figure on the plate is from a plant obligingly forwarded by Mr. Niven.

The species composing the order *Solanàceæ* (to which *Nierembérgia* belongs) are herbaceous plants or shrubs, natives of most parts of the world without the arctic and antarctic circles, especially within the tropics. The number of species of the genus *Solànum* is very great in tropical America. In the flowers of these plants the calyx is tubular, with five equal teeth, remaining on till the fruit is ripe; the monopetalous corolla has a five-cleft limb; and the five equal stamens are inserted upon the corolla. The fruit is generally round and fleshy, with two or four cells and numerous seeds.

The usual effect of the *Solanàceæ* is narcotic; the leaves of all are, in fact, narcotic and exciting, but in different degrees, from the Deadly

Nightshade (which causes vertigo, convulsions, and vomiting), Tobacco (which will frequently produce the first and last of these symptoms), Henbane, and Stramonium, down to some Solanums (the leaves of which are used as kitchen herbs). Some of the most deadly of the poisonous species likely to be met with in this country are the Thorn Apple (*Datùra Stramònium*); the Henbane (*Hyoscy'amus nìger*); the Deadly Nightshade (*A'tropa Belladónna*), every part of which is poisonous; the Mandrake (*Mandrágora officinàlis*), by the best commentators regarded as the Dudaim of Scripture; Tobacco (*Nicotiàna Tabàcum*); and the Bitter-sweet (*Solànum Dulcamàra*). An extract of the leaves of the common Potato (*Solànum tuberòsum*) is a powerful narcotic, ranking between Belladónna and Cònium. Some few of the plants of the order afford tonics; the Cápsicum furnishes the well-known condiment called Cayenne Pepper; and others are most important articles of food or cookery, as the tubers of the Potato, Tomatoes (the fruit of the *Lycopérsicum esculéntum*, commonly called Love Apples), and Egg Apples (the produce of *Solànum Melongèna*), also called Brinjals or Aubergines.

Many very beautiful plants besides Nierembérgia are also contained in the order, especially in the genera Datùra, Brugmánsia, Schizánthus, Salpiglóssis, Browállia, Petùnia, Ly'cium, Céstrum, Habrothámnus, Meyènia, Fabiàna, Solándra, Brunsfélsia, and Francíscea.

LINARIA VILLOSA.

PLATE VII.—FIG. II.

Linària villòsa, AITON. The Villous Toad-Flax.

Natural Order—SCROPHULARIACEÆ.* The Figwort Family.

THIS pretty little species of Toad-Flax was introduced from Spain in 1786. It succeeds best in a mixture of loam and peat, and is increased by division.

The flowers are produced from the axils of the leaves (which are opposite) from June to August.

I have to express my acknowledgments to Mr. Niven for an opportunity of figuring this plant.

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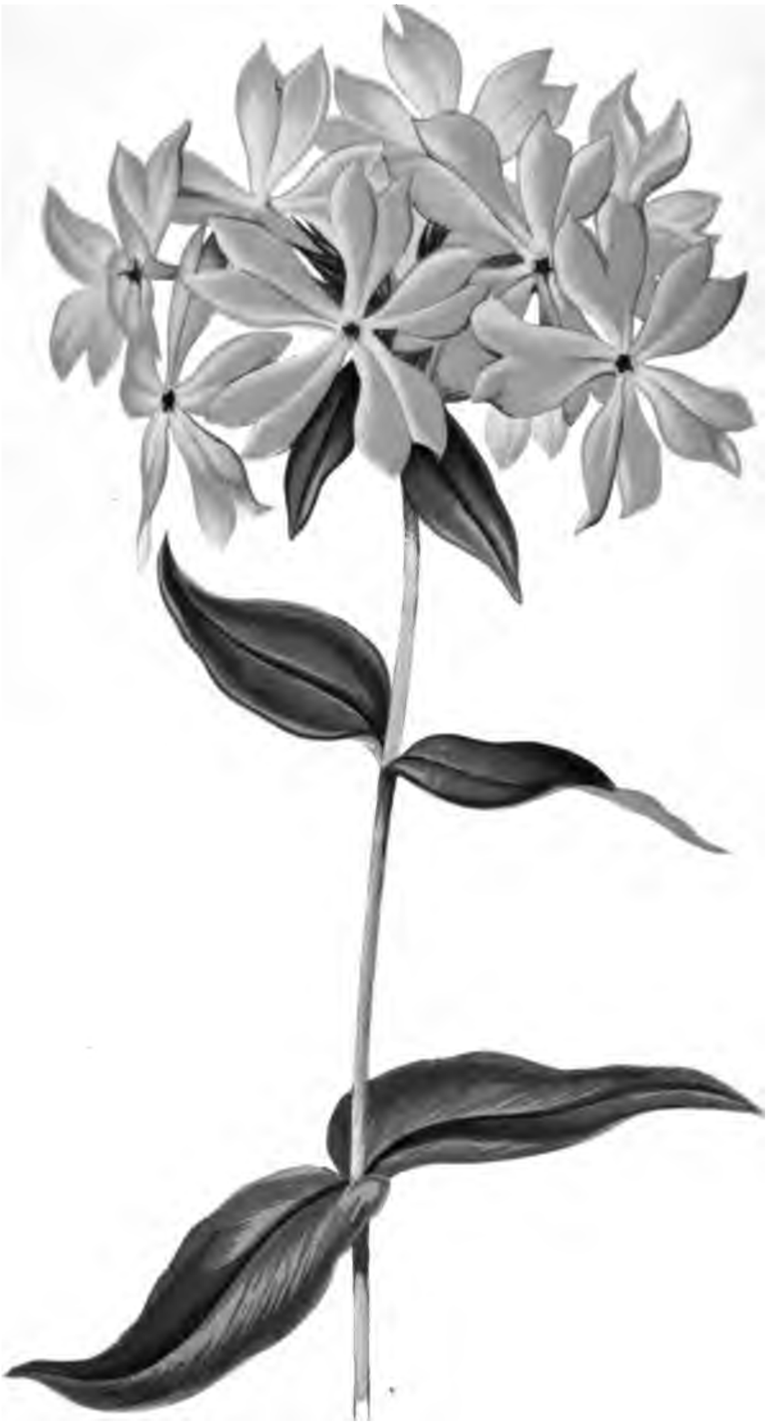
* The order *Scrophulariàceæ* has been already described in vol. i., p. 4.



PHLOX DIVARICATA.

VIII

PHLOX DIVARICATA.

PLATE VIII.

Phlóx divaricàta, WILLDENOW. The Early Flowering Phlox.
Natural Order—POLEMONIACEÆ. The Greek Valerian Family.

THE genus *Phlóx* is composed of striking herbaceous perennial plants, which sometimes, though rarely, become shrubby at the base, with simple leaves, which are generally opposite. The flowers are terminal, and are generally produced in either panicles or corymbs. All the species of the genus are easily distinguished by the singular shape of the flower-bud, which resembles that of a flame: the segments of the limb of the corolla are twisted, so as to lie over each other. The word *Phlóx* signifies a flame. The old name of these plants was *Lychnídea*. The trailing kinds are admirably adapted for growing on rockwork. A rich loamy soil is that best suited for the Phloxes; and they are all easily increased by cuttings or by division.

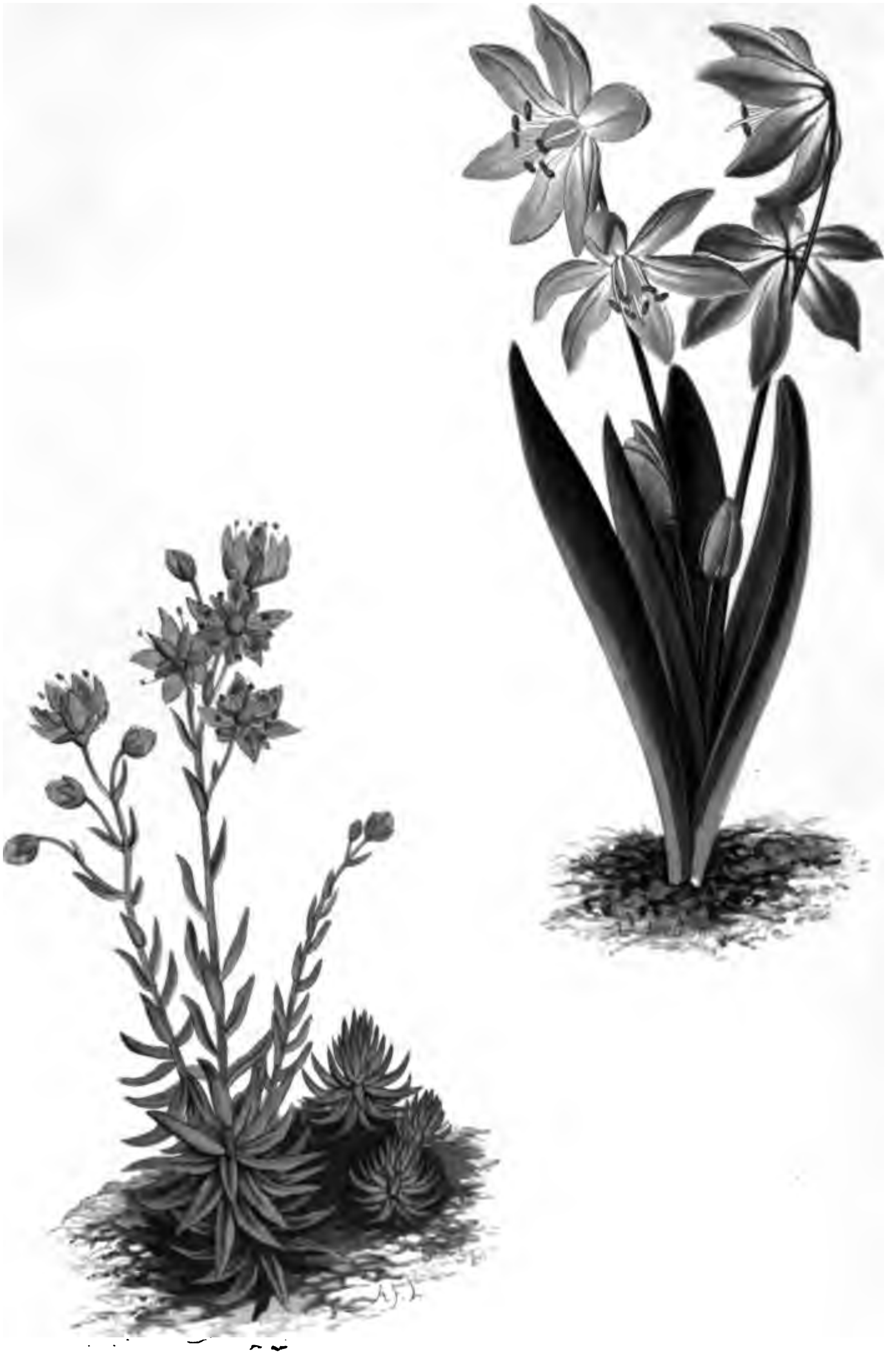
The *P. divaricàta* has been called the Early-flowering Phlox, on account of its coming into flower in May, which is much earlier than most of the other kinds. It rarely exceeds a foot in height, and is, therefore, suitable for planting on rockwork. It is a native of North America, whence it was introduced in 1746. It seldom ripens its seeds in this country, but it is readily increased either by cuttings or by layers. A situation moderately dry is found most suitable for it.

To Mr. Niven my thanks are due for obligingly forwarding the plant for illustration.

The Phlox is included in the order *Polemoniàceæ*, which consists of herbaceous plants with very showy blue, red, or white flowers, and often with pinnated leaves. They are natives of cool or mountainous parts of Europe and America. The genus *Polemònium* (the Greek Valerian) has one species (*P. cærùleum*), which is found wild in some parts of England, and is known by the names of Charity and Jacob's

Ladder. In the flower of this plant, the corolla, which is of a deep blue, softening into white in the centre, is rotate (wheel-shaped), with the stamens, which are bearded at the base, inserted in the throat. The capsule is three-celled, and many-seeded, as is generally the case with plants in this order.

Besides Phlóx, Polemònium, and Cántua, the order also contains the genera Leptosìphon, Gília, and Collòmia, which are very beautiful annuals.



SAXIFRAGA AIZOON [illegible] [illegible]SALIS. [illegible]

IX

SCILLA SIBIRICA.

PLATE IX.—FIG. I.

Scílla sibírica, AITON. The Siberian Squill.
Natural Order—ASPHODELACEÆ.* The Asphodel Family.

THIS is a native of Persia and Asia Minor, and it is one of the most beautiful of the Squills, from the brilliancy and intensity of the colour of the flowers, which are of an azure blue, and very graceful, appearing in March and April before the leaves. It is very suitable for growing on rockwork, or for planting as an edging to beds in a garden of spring flowers. It should be grown in good sandy loam, and the bulbs should be taken up and divided every second or third year. The variety *S. s. amœ'nula* has smaller and paler flowers, and is not equal in beauty to the species.

SAXIFRAGA AIZOIDES β AUTUMNALIS.

PLATE IX.—FIG. II.

Saxífraga aizöìdes β autumnàlis. The Yellow Mountain Saxifrage.
Natural Order—SAXIFRAGACEÆ.† The Saxifrage Family.

S. aizöìdes is an evergreen British species, found near mountain rills and springs in the North of England, in Wales, and in Scotland

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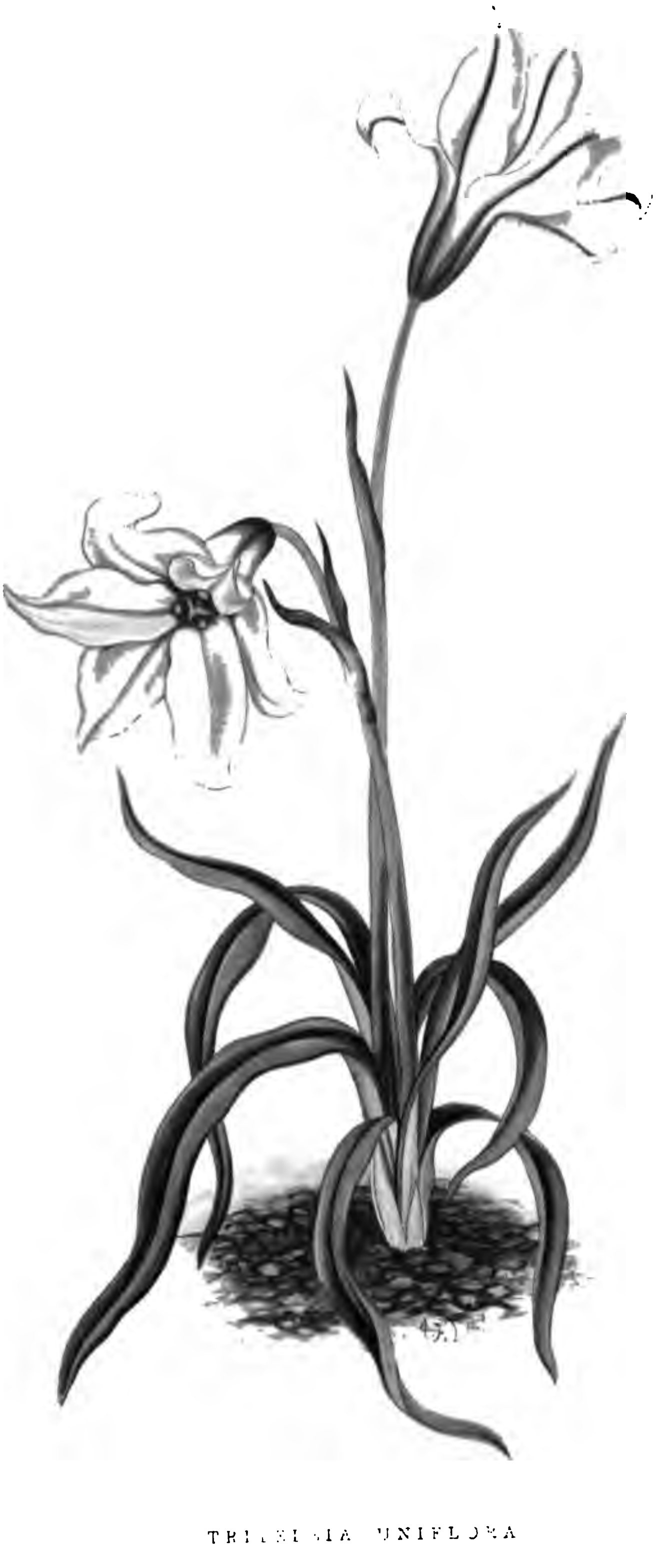
* The character of the order *Asphodelàceæ* will be found in vol. i., p. 57.

† For a description of the order *Saxifragàceæ*, see vol. i., p. 40; and for other species of *Saxífraga*, see pp. 39, 82, and 110.

and Ireland, growing in tufts, and producing its yellow flowers, speckled with red, on upright stems during the summer and autumn. It should be planted in masses in moist peat. It is easily increased by seed or by division.

Mr. Syme considers the *S. autumnàlis* of Linnæus to be the variety of this species with the leaves sparsely ciliated.



TRITELEIA UNIFLORA

X

TRITELEIA UNIFLORA.

PLATE X.

Triteleìa uniflòra, LINDLEY. The One-flowered Triteleia.
Natural Order—ASPHODELACEÆ.* The Asphodel Family.

Triteleìa is a small genus of pretty bulbous plants, the general appearance of the flowers bearing a great resemblance to those of the genus *Brodiæ̀a*. They are easily grown in a mixture of loam, peat, and sand, and are readily increased by offsets, or by seeds. The generic name (from *treis*, three, and *teleios*, complete) was given in allusion to all the parts which compose the flowers being arranged in threes.

T. uniflòra is a native of Mendoza, where it was found originally by Dr. Gillies, and whence it was introduced in 1836. The flowers are very pretty, but unfortunately the plant smells powerfully of garlic. There are two varieties, one of which (*T. u. conspícua*) has flowers larger than those of the species, and the other (*T. u. liliácina*) has flowers of a pretty lilac colour.

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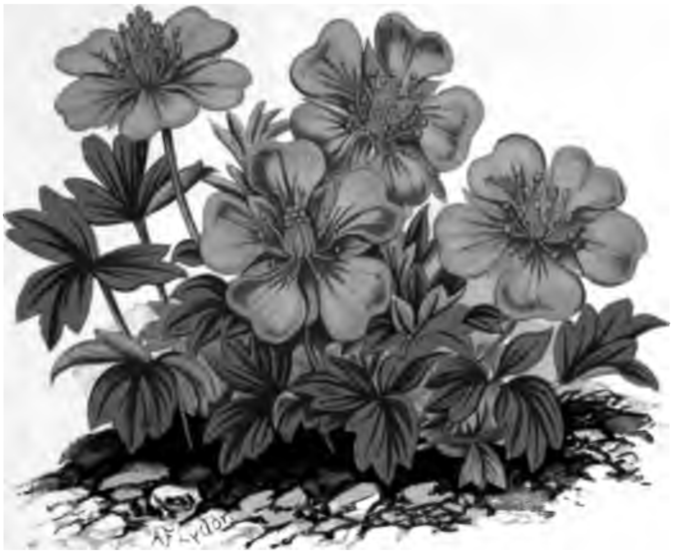
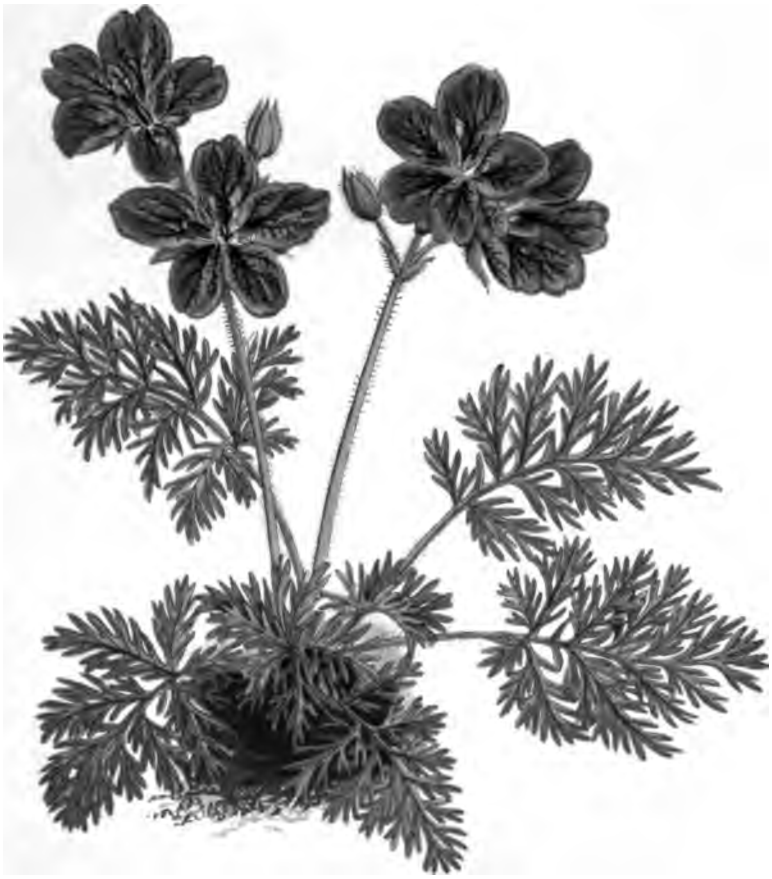
* The character of the order *Asphodelàceæ* is given in vol. i., p. 57.





POTENTILLA AMBIGUA.

ERODIUM PETRÆUM.

XI

POTENTILLA AMBIGUA.

PLATE XI.—FIG. I.

Potentilla ambigua, CAMBESS. The Ambiguous Cinquefoil, or Three-toothed Himalayan Potentilla.

Natural Order—ROSACEÆ.* The Rose Family.

THE genus Potentílla is very nearly allied to the Strawberry, the principal difference being in the fruit, which in the Strawberry is of a fine flavour and juicy, while in the Potentílla it is dry and insipid. All the Potentillas have compound leaves, like the Strawberry, with the stipules adhering to the petioles. The numerous species (many of which are pretty) succeed very well in loamy soil, and they are increased by division. The name of *Potentílla* is from *potens*—powerful, in allusion to the supposed medical qualities of some of the species.

P. ambígua is a distinct, hardy, Himalayan species (introduced in 1840), with a compact habit of growth and large yellow flowers, which are produced abundantly during the summer months. It was found by Jacquemont and also by Captain Henry Strachey, growing in the fissures of rocks in Kanaor, near Rogui, at an elevation of nine thousand feet above the level of the sea, in about lat. 32°, long. E. 78½°; and thence it appears to extend eastward through Nepal to Sikkim-Himalaya, where it was found by Dr. Hooker in woods at an elevation of from twelve to thirteen thousand feet. It is most nearly allied to *P. eriocárpa* of Wallich. The plant is a free-growing perennial, increasing rapidly by its stoloniferous roots, and soon forming a large patch.

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* The order *Rosàceæ* will be found described in vol. i., p. 71.

ERODIUM PETRÆUM.

PLATE XI.—FIG. II.

Eròdium petræ̀um, WILLDENOW. The Rock Heron's Bill.
Natural Order—GERANIACEÆ.* The Geranium Family.

THE species forming the genus *Eròdium* are mostly hardy perennials and annuals, several of them being British plants. They differ from the Geraniums principally in the seed-vessels, the awns of which are bearded inside, and twist up spirally, adhering by their points to the top of the style; whereas in the seed-vessels of the Geraniums the awns are smooth inside, and they twist or coil up in a revolute manner. The name of *Eròdium* is from *erodios*, a heron, and alludes to the seed-vessel resembling the head and beak of that bird.

E. petræ̀um is a very pretty little species, introduced from the South of Europe in 1640, and very suitable for the ledges of rockwork in warm situations. The leaves are from two to four inches in length, much divided, and soft and velvety to the touch. The flowers, which are of a beautiful purplish rose-colour (sometimes white and veined), are produced in June and July on stalks from four to six inches high, the number on each stalk varying from three to five. The leaves and flower-stalks are densely clothed with hairs. A deep gravelly or sandy soil is most suitable for this plant, and it may be propagated by division or by seed.

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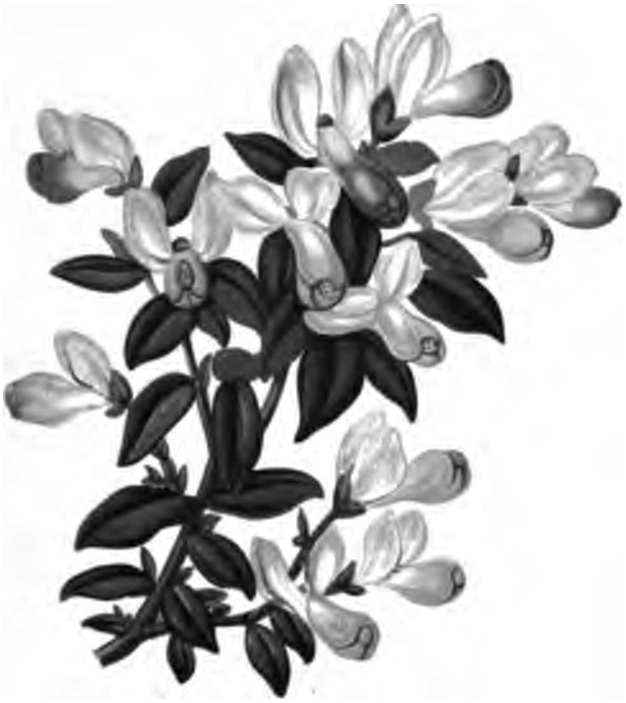
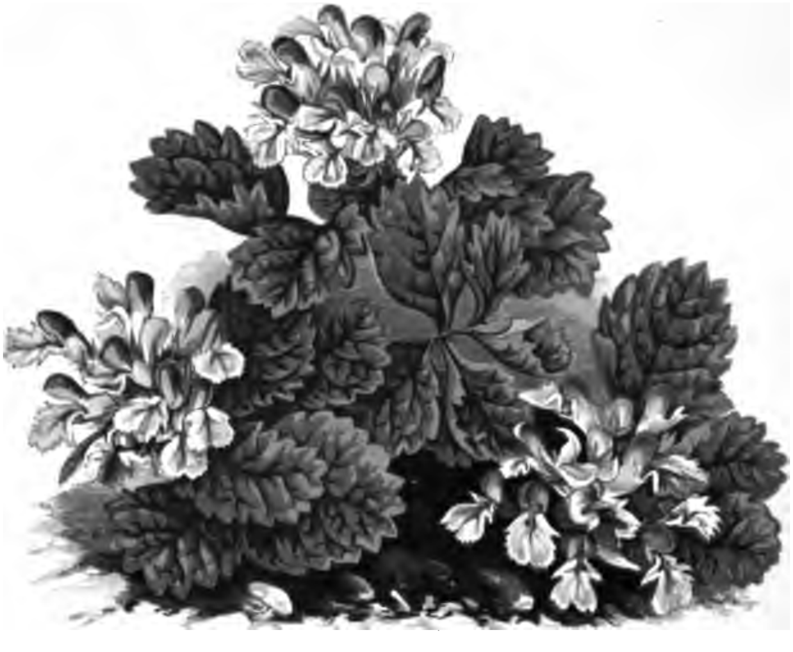
* The character of the order *Geraniàceæ* is given in vol. i., p. 22.





POLYGALA CHAMÆBUXUS.
TEUCRIUM PYRENAICUM.
XII

POLYGALA CHAMÆBUXUS.

PLATE XII.—FIG. I.

Poly'gala Chamæbúxus, WILLDENOW. The Box-leaved Milkwort.
Natural Order—POLYGALACEÆ.* The Milkwort Family.

THIS elegant little evergreen shrub rarely exceeds a foot in height, having leaves like those of the box, and flowering from May to October, but most abundantly in May and June. Each flower is produced on a peduncle proceeding from a kind of three-leaved cup, formed of floral leaves, the true calyx being composed of three leaves, which are nearly white: the two outermost petals (which are similar to the wings of a papilionaceous flower) are also white, or nearly so; the third petal, which forms a kind of tube and contains the eight stamens and the pistil, being white at the base, but yellow towards the extremity, where it changes by degrees to a bright bay colour. There is a variety having the calyx and wings of a beautiful purple colour. The plant has creeping roots, thrives extremely well in bog earth on a shady border, and is readily increased. It is a native of the Alps of Austria and Switzerland, and was introduced in 1658.

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* The order *Polygalàceæ* will be found described in vol. i., p. 74; and for other species of *Poly'gala*, see pp. 74, and 130.

TEUCRIUM PYRENAICUM.

PLATE XII.—FIG. II.

Teùcrium pyrenàicum, WILLDENOW. The Pyrenean Germander.
Natural Order—LABIATÆ.[*] The Labiate Family.

THE species of *Teùcrium* are under-shrubs or herbaceous plants of little beauty, but several of them are aromatic. They are of the easiest culture, succeeding well in common garden soil, and are increased by division and by seeds.

The name has been given to the genus, because Teucer, the Trojan Prince, is said by Pliny to have been the first to employ the plant medicinally.

T. pyrenàicum, which was introduced from the Pyrenees in 1731, grows about six inches high, and produces its flowers in terminal clusters from June to August.

The figure on the plate is from a plant kindly sent by Mr. Niven.

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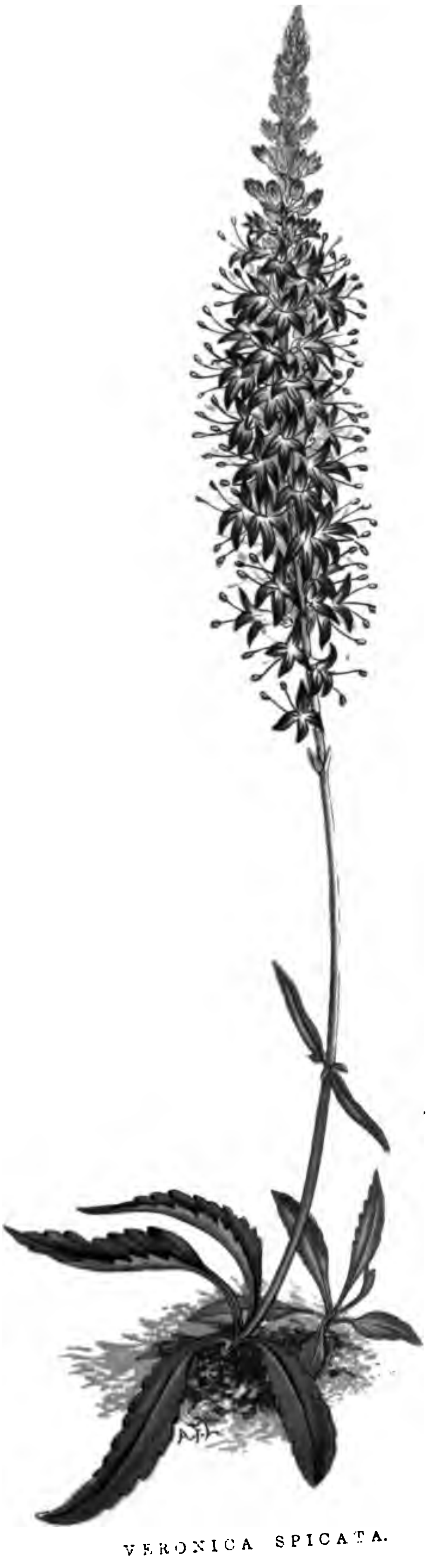
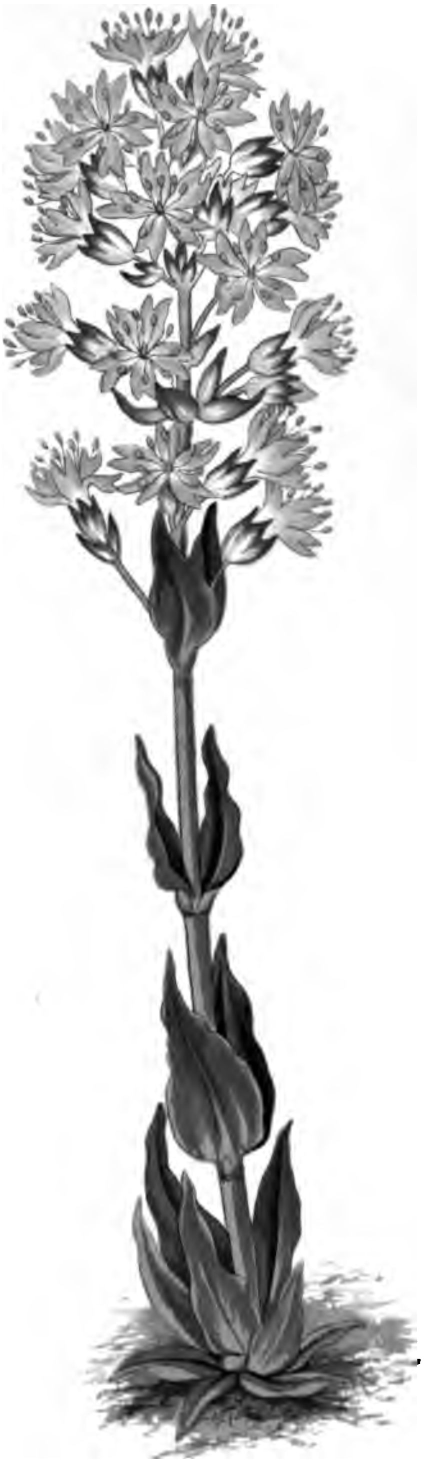
[*] The character of the order *Labiàtæ* will be found in vol. i., p. 64.



VERONICA SPICATA.



LYCHNIS ALPINA.

XIII

VERONICA SPICATA.

PLATE XIII.—FIG. I.

Verónica spicàta, SCHREBER. The Spiked Speedwell.
Natural Order—SCROPHULARIACEÆ.* The Figwort Family.

THIS, though a British species, is often cultivated. It has erect stems, which grow from eight inches to a foot high. The flowers, which are of a clear blue or sometimes of a pale pink, are produced in numerous dense terminal spikes early in the summer. There is a variety the flowers of which are white, and also one with variegated leaves.

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* The character of the order *Scrophulariàceæ* will be found in vol. i., p. 4; and for a description of the genus *Verónica*, see p. 118.

LYCHNIS ALPINA.

PLATE XIII.—FIG. II.

Ly'chnis alpìna, WILLDENOW. The Alpine Lychnis.
Natural Order—CARYOPHYLLACEÆ.* The Pink and Carnation Family.

THIS is a rare British species, found on Hobeartin Fell, in Cumberland, and on the summit of Little Kilrannoch, a mountain in Forfarshire. It is a perennial, growing only a few inches high, and producing its clusters of rose-coloured flowers in June and July. It is readily distinguished from *Ly'chnis Viscària* by its deeply cloven petals, and by the absence of the viscid secretion upon the stem. It should be grown on rockwork in rather moist sandy soil; and it may be increased by division and by seed.

To Mr. Niven my thanks are due for obligingly forwarding the plant for illustration.

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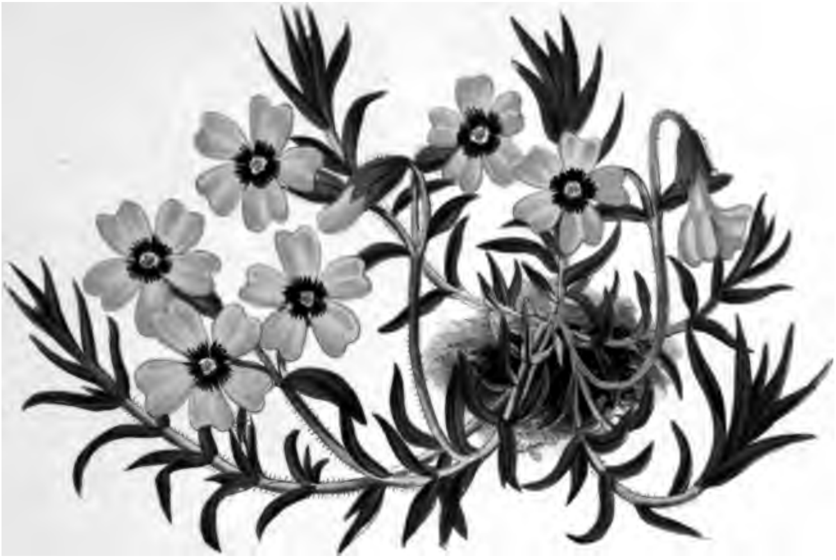
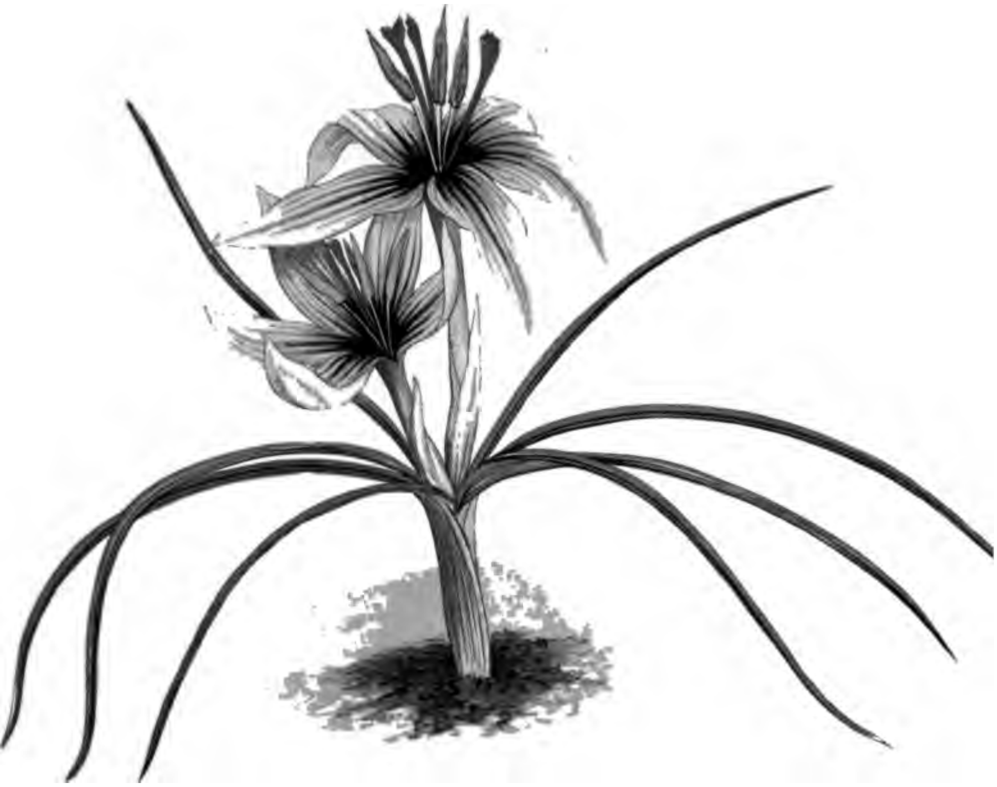
* The character of the order *Caryophyllàceæ* will be found in vol. i., p. 1; and for other species of *Ly'chnis,* see pp. 1 and 117.





PHLOX SUBULATA.

CROCUS SATIVUS GRÆCUS.

XIV

PHLOX SUBULATA.

PLATE XIV.—FIG. I.

Phlóx subulàta, WILLDENOW. The Awl-leaved Phlox.
Natural Order—POLEMONIACEÆ.* The Greek Valerian Family.

THIS very pretty little species is a native of Virginia, whence it was introduced in 1786. It is admirably adapted for rockwork, as the stems are procumbent, and will hang down in a very graceful manner. The flowers, which are produced in great abundance in April or May, are generally of a delicate pink, with a dark eye. The stems are also pink. The plant is propagated by cuttings.

The variety *P. s. oculàta* has flowers with a rich purplish crimson eye.

CROCUS SATIVUS GRÆCUS.

PLATE XIV.—FIG. II.

Cròcus satìvus, WILLDENOW. The Saffron Crocus.
Natural Order—IRIDACEÆ.† The Iris Family.

THE Saffron Crocus (*C. sativus*) is said to have been first brought into England in the time of Edward the Third, and introduced to

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* For the character of the order *Polemoniàceæ,* see p. 17 of this volume.

† The character of the order *Iridàceæ* will be found in vol. i., p. 69; and for other species of *Cròcus,* see p.p. 68, 76, 77, 97, and 124.

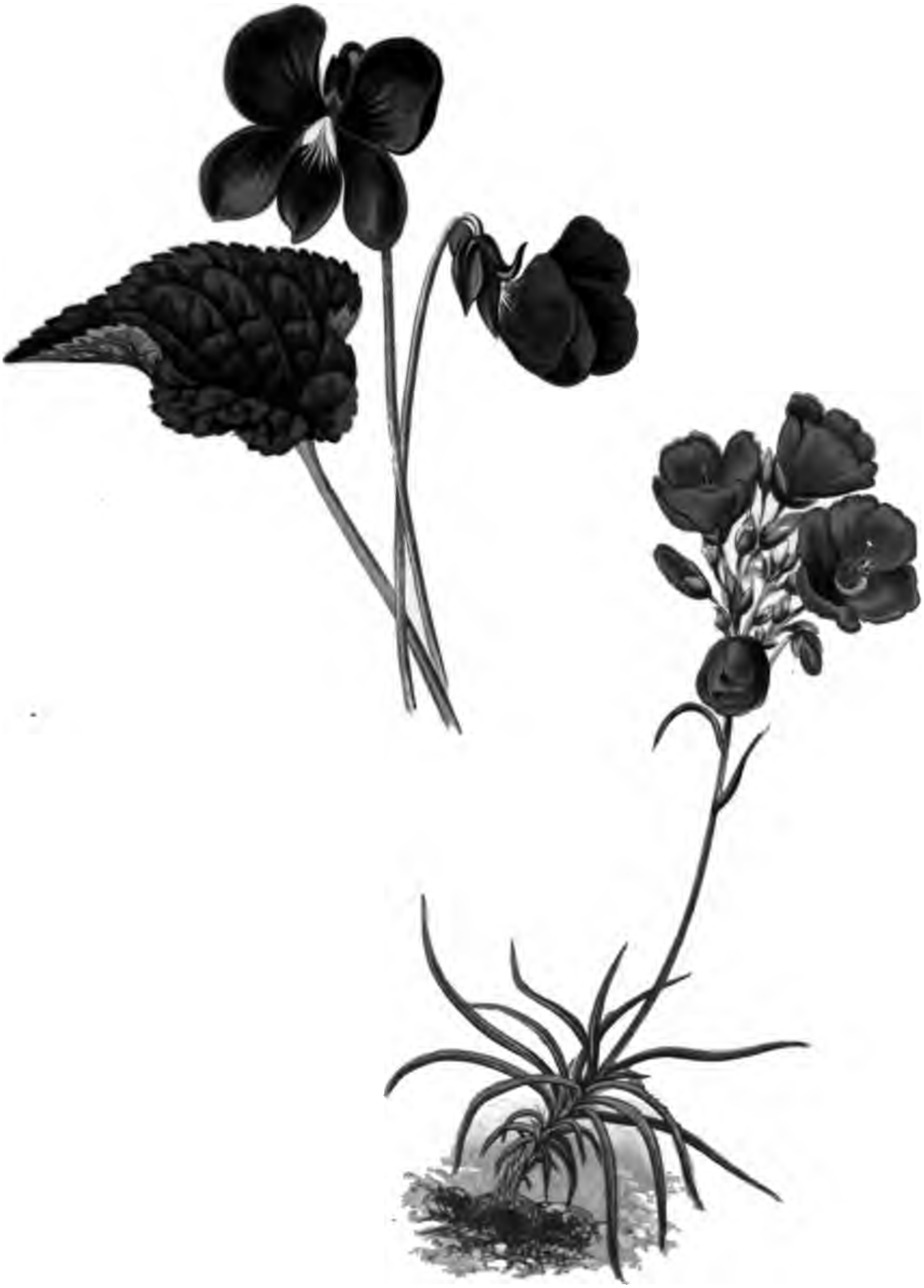
Walden, in Essex, to which town it afterwards gave the prænomen. It was abundantly cultivated there, and in Cambridgeshire, Suffolk, and Herefordshire, in the beginning of the seventeenth century; but saffron is now so little in repute, or so much cheaper in foreign markets, that at present the culture of it is confined to a few parishes round Saffron Walden. The bulbs are planted in May or June, and the flowers are gathered in September, the yellow stigmas and part of the style being picked out and placed to dry on linen cloths, suspended by cords, like hammocks, in a room heated by a fire or by hot-water pipes, the linen cloths being gently moved to and fro frequently while the saffron is drying, to prevent its becoming matted together. Five pounds' weight of stigmas will make only one pound of saffron. The saffron, when dry, is put into bags. After the third year, the bulbs are taken up, divided, and transplanted.

The uses of Saffron in medicine, domestic economy, and the arts, were formerly very various. It is now employed by painters and dyers, and enters into sauces, creams, biscuits, conserves, liqueurs, etc.

This is one of the autumnal Crocuses, and it is readily distinguished from all the other species by the stigmas hanging out of the flowers, which are large, of a pale purple or violet, and very ornamental. The flowers and leaves appear at the same time (viz., in September), the leaves being from the first longer than the flowers. The bulbs should be planted in warm sunny situations in well-drained sandy soil, and they should be taken up and divided every third year, after the leaves have decayed.

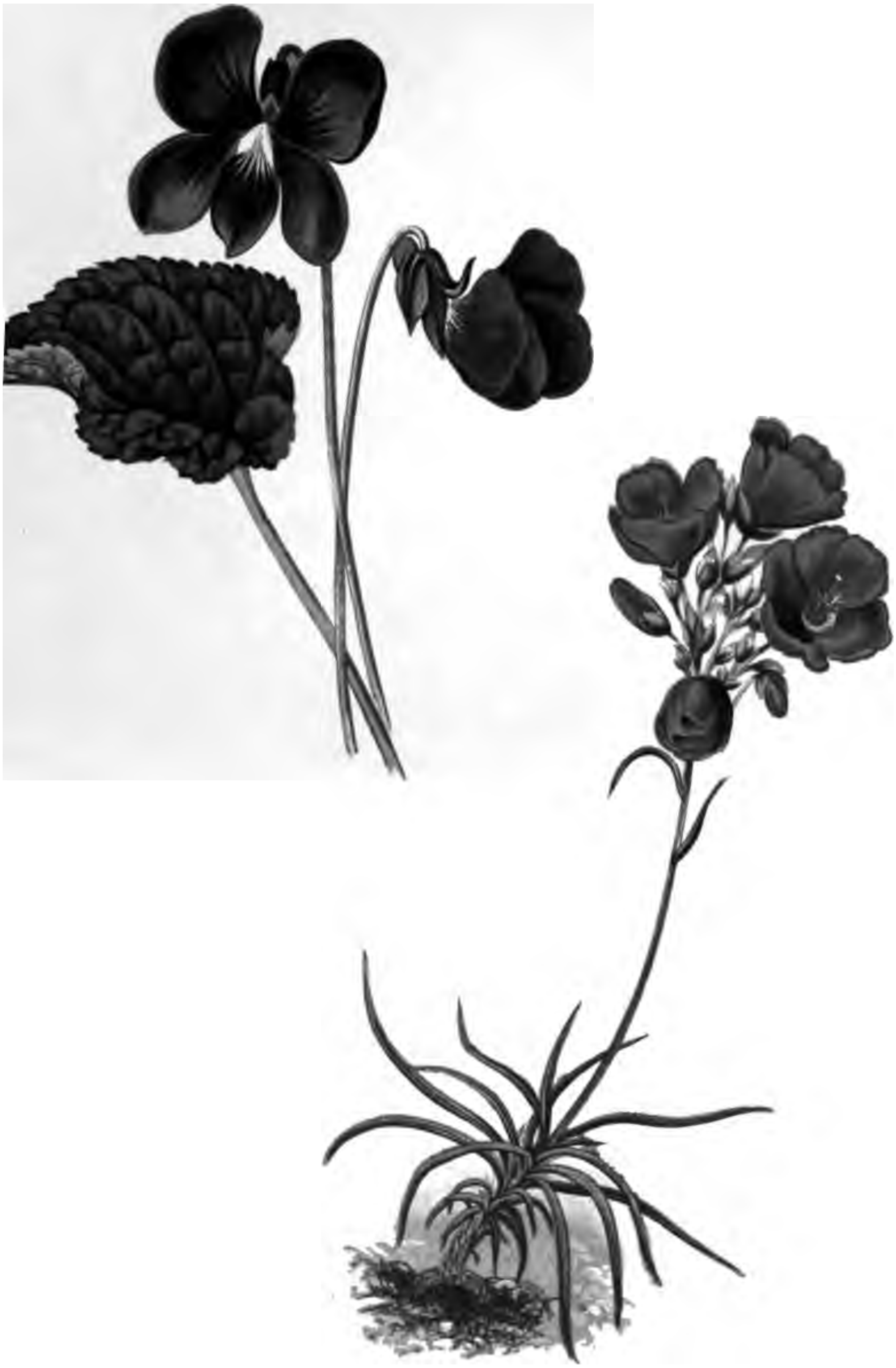
The flowers of the variety from Greece are smaller than those of the species.

My thanks are due to Mr. Niven for forwarding the plant for illustration.



VIOLA OBLIQUA. CALANDRINIA UMBELLATA.

XV



VIOLA OBLIQUA. CALANDRINIA UMBELLATA.

XV

VIOLA OBLIQUA.

PLATE XV.—FIG. I.

Viola obliqua, WILLDENOW. The Oblique-flowered or large American Violet.
Natural Order—VIOLACEÆ.* The Violet Family.

Viola is an extensive genus of low-growing herbaceous plants, mostly with violet or white flowers, and well adapted for the flower-border, for rockwork, or for growing in pots. The Sweet Violet (*V. odoràta*) is a favourite flower with every one on account of its delightful fragrance, and its early appearance. It is a native of every part of Europe, in woods, and on warm banks. The Heart's-ease (*V. trícolor*) is another well-known species, of which there are many very beautiful varieties. Of the numerous other species, many are rarely seen in private gardens, though well deserving of attention.

The name of *Viola* is said to be derived from *Io*, who, when transformed into a cow, is fabled to have eaten violets as the first food she took.

V. oblìqua, which was introduced from North America in 1762, grows from six to ten inches high, has numerous heart-shaped leaves, and produces its large showy flowers in the early part of the summer. It requires a light soil, and it is propagated by dividing the roots. It is sometimes found in collections under the name of *V. cucullàta*.

I am indebted to Messrs. Backhouse and Son for an opportunity of figuring this plant.

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* For the character of the order *Violàceæ*, see p. 14 of this volume.

CALANDRINIA UMBELLATA.

PLATE XV.—FIG. II.

Calandrínia umbellàta, RUIZ AND PAVON. The Umbellate Calandrinia.
Natural Order—PORTULACEÆ. The Purslane Family.

THE Calandrinias are ornamental succulent plants, which are generally treated as annuals, although properly they are not so, as they may be preserved in the greenhouse through the winter, and, in time, so treated, one species (*C. grandiflòra*) will become shrubby. They should be planted in good, well-drained, loamy soil, mixed with peat, in warm sunny situations, either on rockwork or in the flower-border.

The generic name was given in honour of J. L. Calandrini, a Genoese botanist.

C. umbellàta, which was introduced from Chili in 1836, grows about six inches high, and has much-branched, prostrate stems. The bright purplish crimson flowers begin to appear in June, and continue appearing for two or three months. Though this species is a half-shrubby plant, it is, perhaps, better to treat it as an annual, and to raise it from seed every year.

I have to thank Mr. Niven for obligingly forwarding the plant from which the figure in our plate is taken.

Calandrínia belongs to the order *Portulàceæ,* which consists of succulent shrubs or herbaceous plants, which are found in dry barren situations, or on the sea-shore, in various parts of the world. They are insipid and inodorous, and destitute, so far as is known, of any important medicinal properties. The only plants of the order of any known use are the common Purslane of the Greeks (*Portulàca oleràcea*) and *Claytònia perfoliàta,* both of which are occasionally used in salads. The former has, indeed, been used from all antiquity as a pot-herb, and in salads, on account of its cooling and antiscorbutic qualities.

In all the plants of the order the flowers have a distinct calyx (generally of two sepals only), which remains on till the seeds are ripe; and a corolla of five regular petals, which close in the absence of the sun. The stamens are numerous; there is a single style, or none; and there are several stigmas, much divided. The capsule is dry and one-celled, and opens naturally when ripe, splitting into three or four valves. The seeds are numerous, and are attached to a central placenta.

The remarkably thick fleshy leaves of the plants belonging to this order (of which an example may be seen in the leaves of *Calandrínia díscolor*) serve as a mark by which they may be readily distinguished from other plants having similarly shaped flowers.

The most ornamental plants of the order are contained in the genera *Calandrínia, Claytònia, Portulàca,* and *Talìnum.*

ERIGERON GLAUCUM.

PLATE XVI.

Erígeron glaúcum, Ker. The Shrubby Erigeron.
Natural Order—Compositæ.* The Composite Family.

There are several British species of Erígeron, well known under the name of Fleabane, but having little beauty to recommend them. Some of the American species, however, are deserving of attention as border-flowers. All the kinds grow readily in good garden soil, and they are easily increased by division in the spring.

The generic name *Erígeron* signifies "soon becoming old," and is given in allusion to the worn-out appearance which many of the species have, even when in flower.

E. glaúcum was introduced from South America in 1812. When in flower it somewhat resembles *A'ster alpìnus*. The florets of the lilac-coloured ray are rather broader than those of other species of the genus. The plant grows about a foot high, is of easy culture, and it is readily increased by dividing the root.

The figure in our plate is from a plant which Mr. Niven kindly sent.

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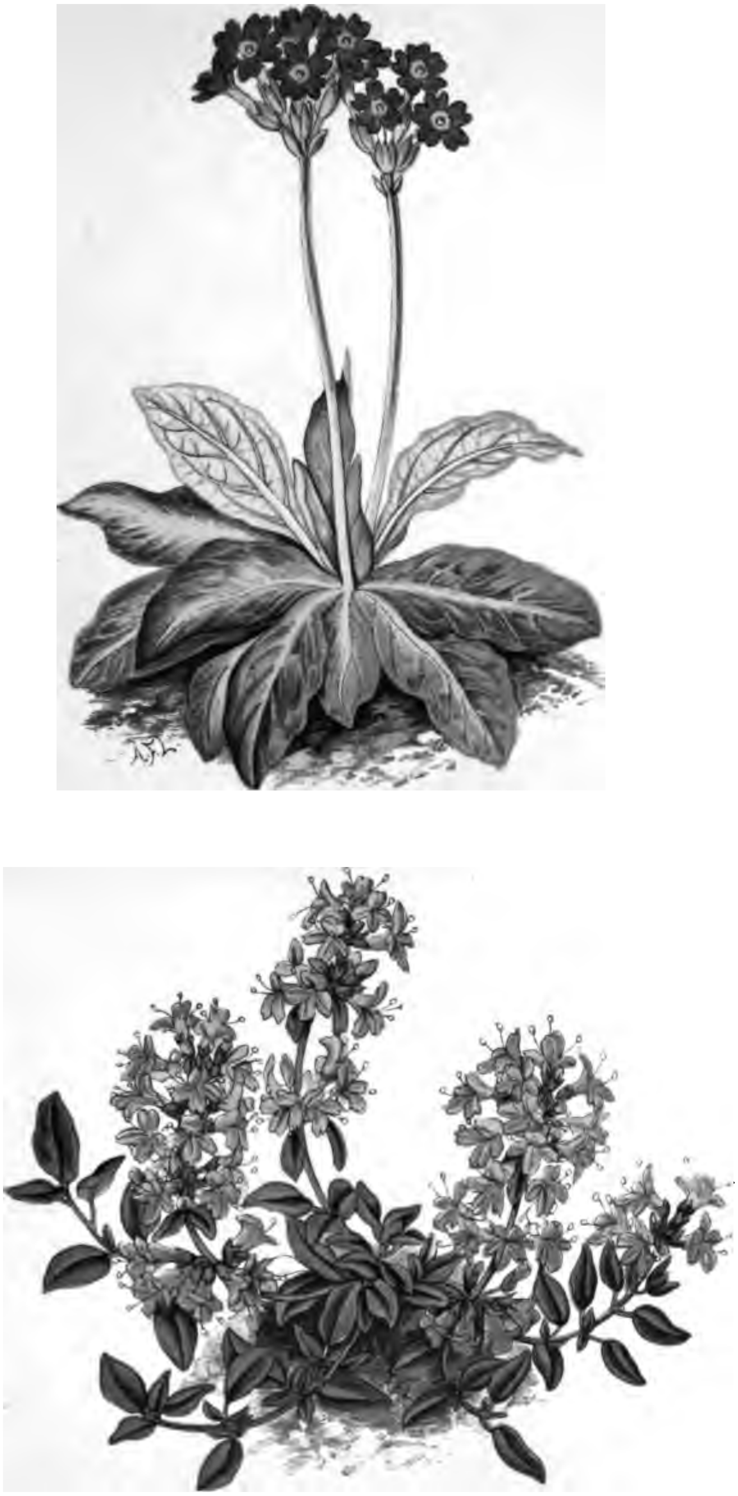
* The order *Compósitæ* will be found described in vol. i., p. 16.



PRIMULA SCOTICA.

THYMUS ALPINUS.

XVII

PRIMULA SCOTICA.

PLATE XVII.—FIG. I.

Prímula scótica, SIR W. J. HOOKER. The Scotch Primrose.
Natural Order—PRIMULACEÆ.* The Primrose Family.

THE *Prímula scótica* is considered by some to be a variety of the pretty little *P. farinòsa*,† with broader leaves, shorter flower-stems, and shorter and broader lobes to the corolla; while others, who have examined both wild and cultivated specimens, regard it as being quite distinct. It is a rare British plant, found only in Caithness and Sutherlandshire, and also in the Orkney Islands, in damp pastures. The flowers are of a rich bluish purple, with a yellow centre, and are produced in April or May. The leaves are covered with powder on the underside; and the calyx and flower-stalks are also powdered.

This very interesting and beautiful little Primrose is very suitable for planting on rockwork, and it should be grown in a mixture of moist sandy peat and loam. It may be increased by seed.

I am indebted to Mr. Niven for an opportunity of figuring this species.

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* The character of the order *Primulàceæ* will be found in vol. i., p. 14.

† Already described in vol. i., p. 140.

THYMUS ALPINUS.

PLATE XVII.—FIG. II.

Thy'mus alpìnus, PERSOON. The Alpine Thyme.
Natural Order—LABIATÆ.* The Labiate Family.

Thy'mus alpìnus, which is nearly allied to *T. A'cinos,* is a native of the Alps of Southern Europe, whence it was introduced in 1731. The purplish flowers are produced from June to September.

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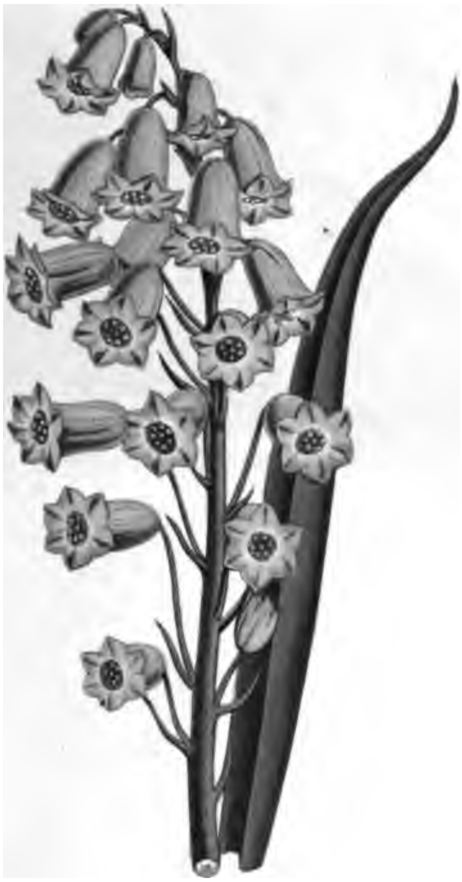
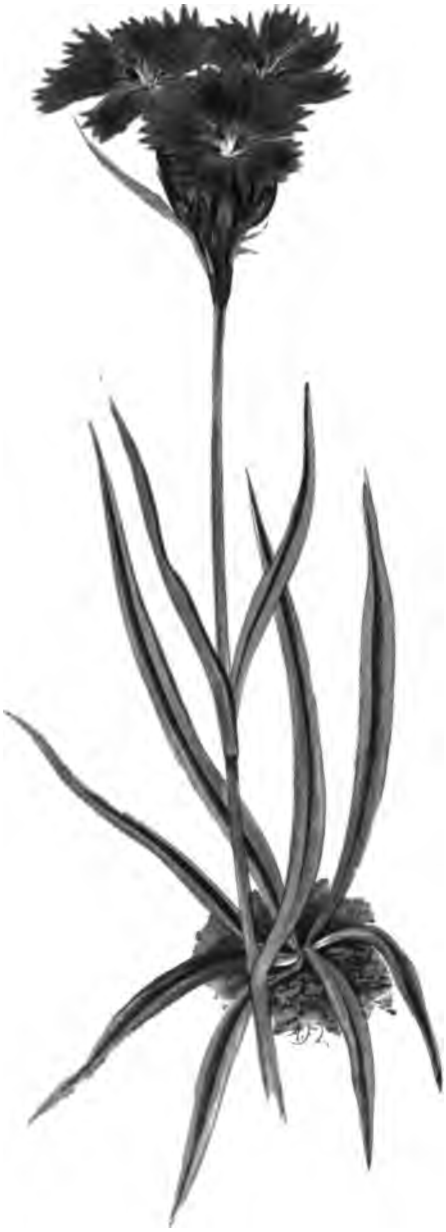
* The character of the order *Labiàtæ* will be found in vol. i., p. 64; and for a description of the genus *Thy'mus,* see p. 78.



HYACINTHUS AMETHYSTINUS.



DIANTHUS CARTHUSIANORUM.

XVIII

HYACINTHUS AMETHYSTINUS.

PLATE XVIII.—FIG. I.

Hyacinthus amethy'stinus, WILLDENOW. The Amethyst-coloured Hyacinth.
Natural Order—ASPHODELACEÆ.* The Asphodel Family.

THERE are not many distinct species in the genus *Hyacinthus*, and of these the best known is *H. orientàlis* (the Common or Eastern Hyacinth), of which there are the innumerable varieties now grown every year in the open garden, in pots, and in glasses. The generic name is from *Hyacinthus*, who is fabled as a beautiful youth beloved by Apollo, by whom he was accidentally killed with a quoit, and from whose blood sprang the flower to which Apollo gave his name.

H. amethy'stinus is a beautiful little bulbous plant, a native of Spain (whence in was introduced by Miller in 1759), with deeply channelled leaves, and racemes of light blue flowers, which appear in May and June. A light sandy soil, in a warm and somewhat sheltered situation, will be found most suitable for this pretty Hyacinth, which deserves to be more generally grown than it is at present. It succeeds very well, also, in pots, and thus grown its clusters of flowers will produce a very beautiful and striking effect. It may be increased by dividing the bulbs.

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* The character of the order *Asphodelàceæ* has been already given in vol. i., p. 57.

DIANTHUS CARTHUSIANORUM.

PLATE XVIII.—FIG. II.

Diánthus Carthusianòrum, LINNÆUS. The Carthusians' Pink.
Natural Order—CARYOPHYLLACEÆ.* The Pink and Carnation Family.

THIS species of Diánthus is said to have been introduced from Germany in 1573. Though not so showy as many of the other kinds of Pink, it has a very pretty effect when sown or planted in patches, as it will continue to produce a succession of flowers during the whole of the summer and autumn. A light sandy loam is the soil best suited to it, and it may be increased by seeds or by pipings.

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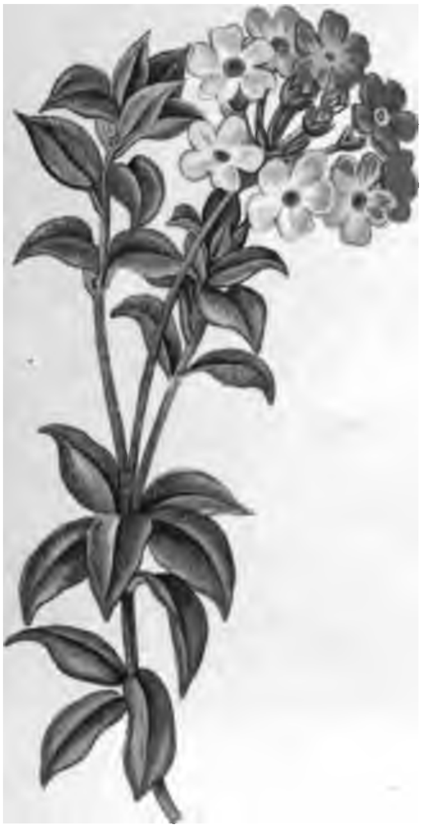
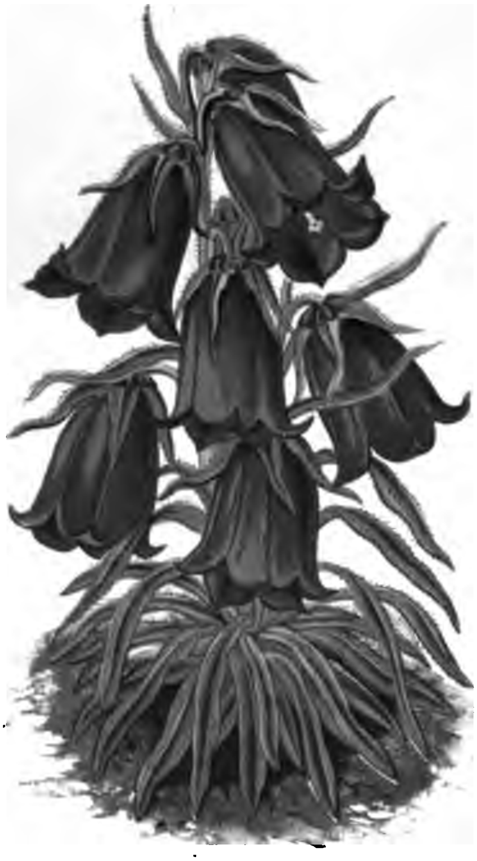
* The character of the order *Caryophyllàceæ* will be found in vol. i., p. 1; and for other species of *Diánthus*, see pp. 65 and 113.





[illegible] CAMPANULA ALPINA.

XIX

ANDROSACE LANUGINOSA.

PLATE XIX.—FIG. I.

Andrósace lanuginòsa, WALLICH. The Woolly-leaved Androsace.
Natural Order—PRIMULACEÆ.* The Primrose Family.

THIS pretty *Andrósace* is a native of the Himalaya Mountains, and was introduced in 1842. It is very suitable for planting on the ledges of rockwork exposed to the sun. It grows from six to eight inches high, and flowers in August. The flowers are produced in umbels, and are of a delicate rose-colour with a yellow eye. The leaves and branches and young portions of the stem are densely clothed with long silky hairs. The plant should be grown in a mixture of sandy peat and loam, and it may be increased by cuttings or by seed.

The illustration is from a plant kindly forwarded by Mr. Niven.

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* The character of the order *Primulàceæ* will be found in vol. i., p. 14; and for a description of the genus *Andrósace,* see p. 109.

CAMPANULA ALPINA.

PLATE XIX.—FIG. II.

Campánula alpìna, Willdenow. The Alpine Bell-Flower.
Natural Order—Campanulaceæ.* The Bell-Flower Family.

This is a native of the Alps of Switzerland, whence it was introduced in 1779. It seldom grows more than six inches high, and it is admirably adapted for rockwork, requiring a rich soil in a dry situation fully exposed to the sun and air. It may be increased either by seed or by division. The flowers are of a very dark blue or violet; and the leaves are woolly.

To Messrs. Backhouse and Son, of York, my thanks are due for obligingly forwarding the plant for illustration.

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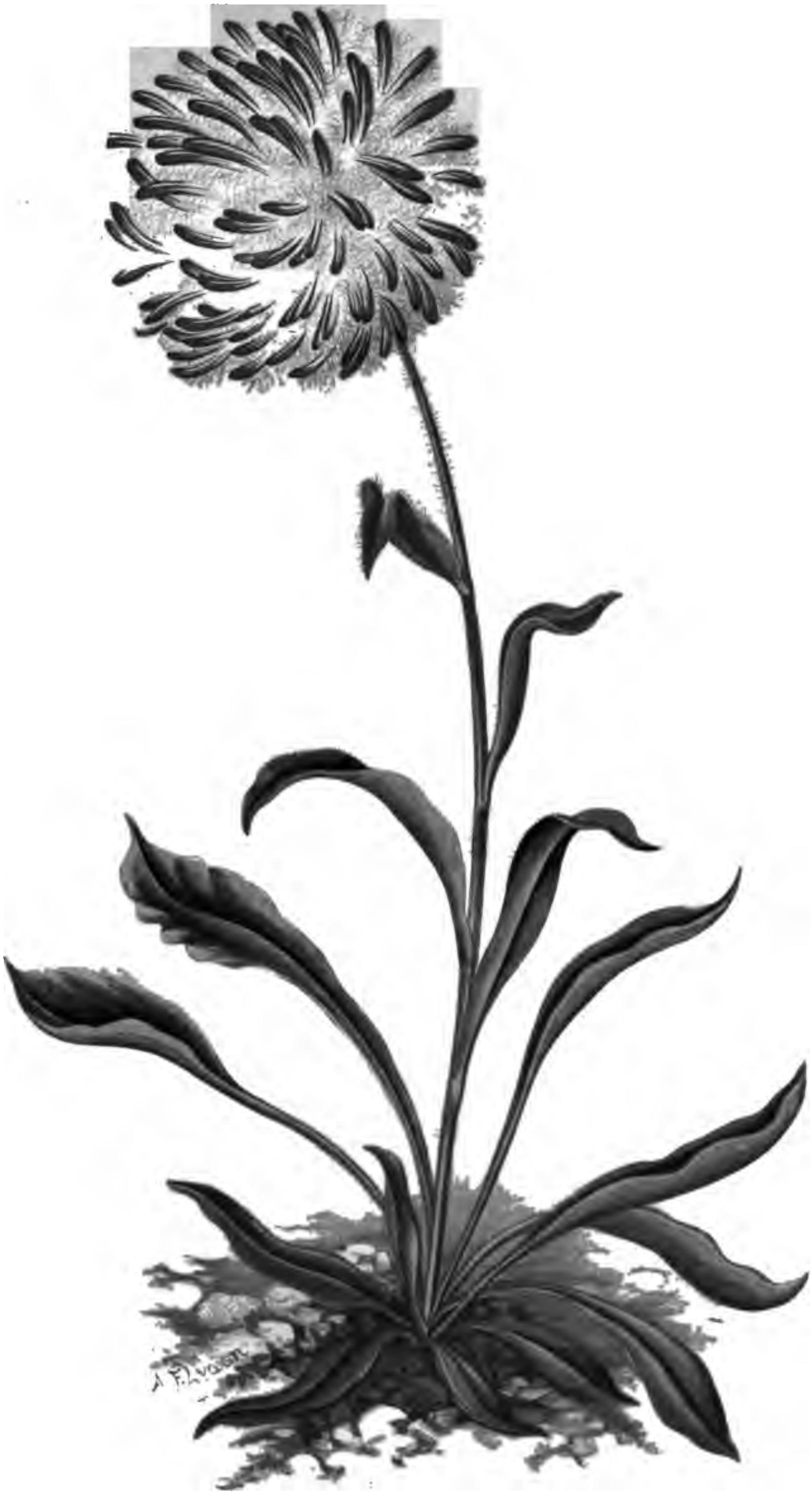
* The character of the order *Campanuláceæ* has been already given in vol. i., p. 8.



TRICHINIUM MANGLESII.

XX

TRICHINIUM MANGLESII.

PLATE XX.

Trichínium Manglèsii, LINDLEY. Captain Mangles's Trichinium.
Natural Order—AMARANTHACEÆ. The Amaranth Family.

THE singular genus *Trichínium* is exclusively Australian, remarkable for the great quantity of delicate knotted hairs with which the densely spiked or capitate flowers are covered. It is, indeed, in allusion to these hairs that the generic name (from *trichinos,* covered with hairs) is given.

Few more striking plants have been introduced to our gardens of late years than *T. Manglèsii,** which is from the Swan River. Though usually treated as a greenhouse plant, there is no reason why it should not be employed in summer for decorating the flower-border, as are many other Australian plants. The flowers, which are pink at the tips, and silvery at the base, are produced in heads three inches across. Of the forty-nine species of *Trichínium* known to botanists, there is not one, perhaps, more beautiful than *T. Manglèsii,* unless it be *T. spectábile,* which, indeed, is considered as probably a short and broad spiked variety, with narrow leaves, of the species now under notice.

I have to express my acknowledgments to Mr. Niven for an opportunity of figuring this plant.

The order *Amaranthàceæ* (in which *Trichínium* is placed) consists of herbaceous plants or shrubs, which are found growing in crowds or singly, either in dry, stony, or barren places, or among thickets upon the borders of woods, or a few even in salt marshes. They are much more frequent within the tropics than beyond them, and are unknown in the coldest regions of the world. Many are weeds, but some are very ornamental, as the Iresìne, the Alternanthèra, a few species of Amaránthus, the Cock's-comb, and the Globe Amaranth.

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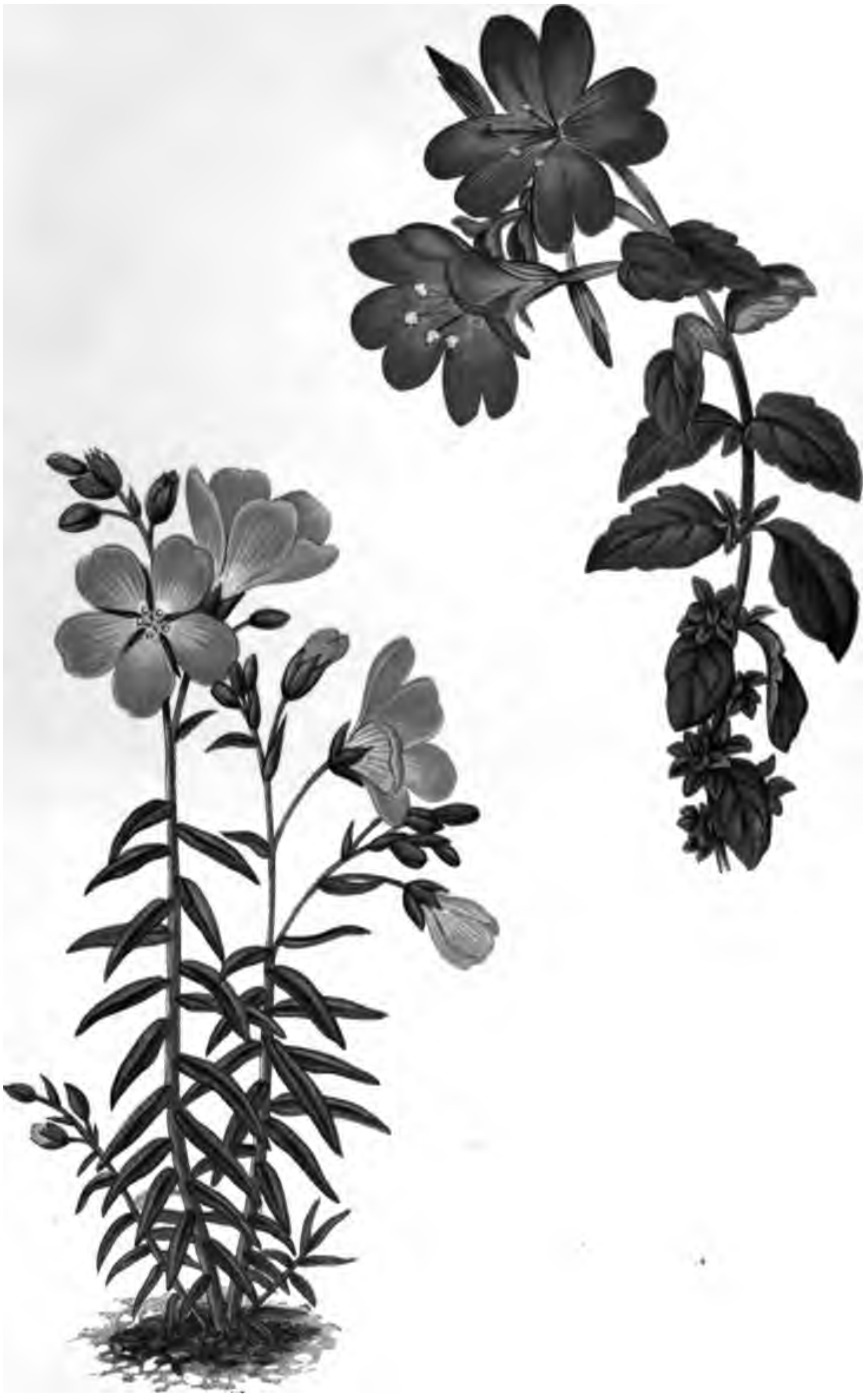
* Named in honour of the late Captain James Mangles, R.N., who was instrumental in introducing many very beautiful plants from the Swan River.

The flowers of the plants of this order are produced either in spikes, like Love-lies-bleeding (*Amaránthus caudàtus*), or in heads, like the Globe Amaranth (*Gomphrèna globòsa*), or they are of a singular crest-like shape, like the Cock's-comb (*Celòsia cristàta*). In all, the flowers have no corolla, and only a very thin dry calyx, which is surrounded by hard, thin, dry bracts, of the same colour, each ending in a long point. There are generally five anthers, and two or three styles, with pointed stigmas; but the capsule contains only one cell and one seed, and, when ripe, it divides horizontally in the middle, like the capsule of the Pimpernel.



LINUM AUSTRIACUM [illegible]

[illegible]

LINUM ALPINUM.

PLATE XXI.—FIG. I.

Lìnum alpìnum, WILLDENOW. The Alpine Flax.
Natural Order—LINACEÆ.* The Flax Family.

THE flowers of this very pretty little Flax are produced on numerous very slender stems in July and August, and resemble those of the Common Perennial Flax (*L. perénne*), the beauty of which every one who is acquainted with British plants will allow.

The plant seldom grows more than six or eight inches high, and is very suitable for planting on the ledges or in the fissures of rock-work. It should be grown in sandy loam, and it prefers a rather dry situation. It is a native of the Alps, the Pyrenees, and, indeed, of many other mountainous parts of Europe. It was introduced in 1739. It may be increased either by seed or by division. Very nice young plants may soon be obtained, if the seeds are sown as soon as they are gathered.

I am indebted to Messrs. Backhouse and Son for an opportunity of figuring this plant.

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* The order *Linàceæ* will be found described in vol. i., p. 98; and for a description of the genus *Lìnum*, see also p. 98.

EPILOBIUM OBCORDATUM.

PLATE XXI.—FIG. II.

Epilòbium obcordàtum. The Obcordate Willow-Herb.
Natural Order—ONAGRACEÆ. The Evening Primrose Family.

OF the species of *Epilòbium* only a few have any beauty to recommend them. Several are British plants, and these are well known, especially *E. angustifòlium* (the French Willow-Herb, or Rose-bay) and *E. hirsùtum* (the Great Willow-Herb, or Codlins-and-Cream), which are effective plants in a wild garden, or in woods, or by the margins of pieces of water. All the species grow well in a mixture of peat and loam, and they are easily increased either by seeds or by dividing the roots.

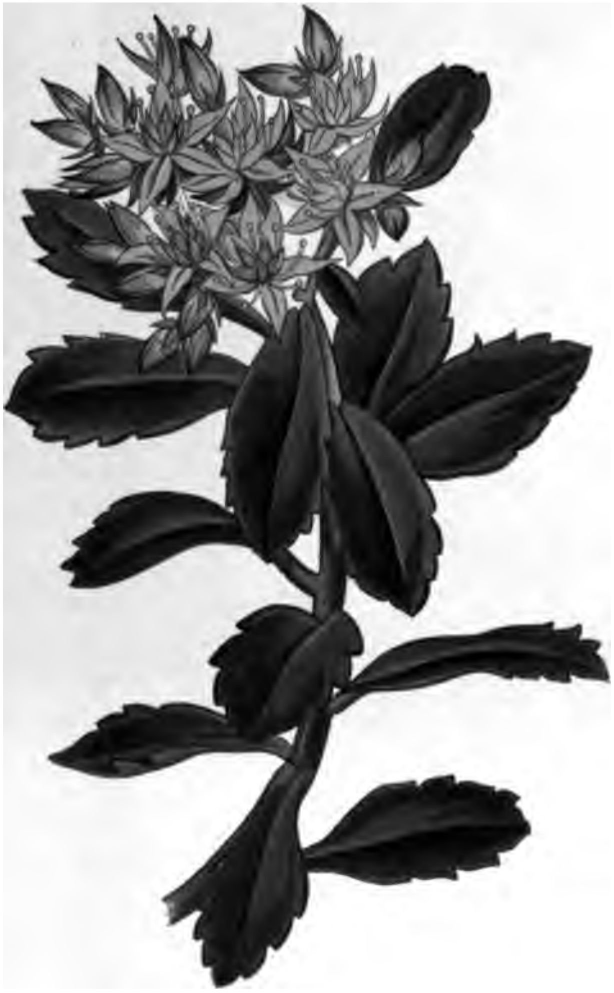
The generic name is from *epi*, upon, and *lobos*, a pod, in allusion to the flowers having the appearance of being seated on the top of the pod.

E. obcordàtum has very beautiful rose-coloured flowers, and opposite leaves. It is most suitable for planting in the mixed border, and it is well deserving of cultivation.

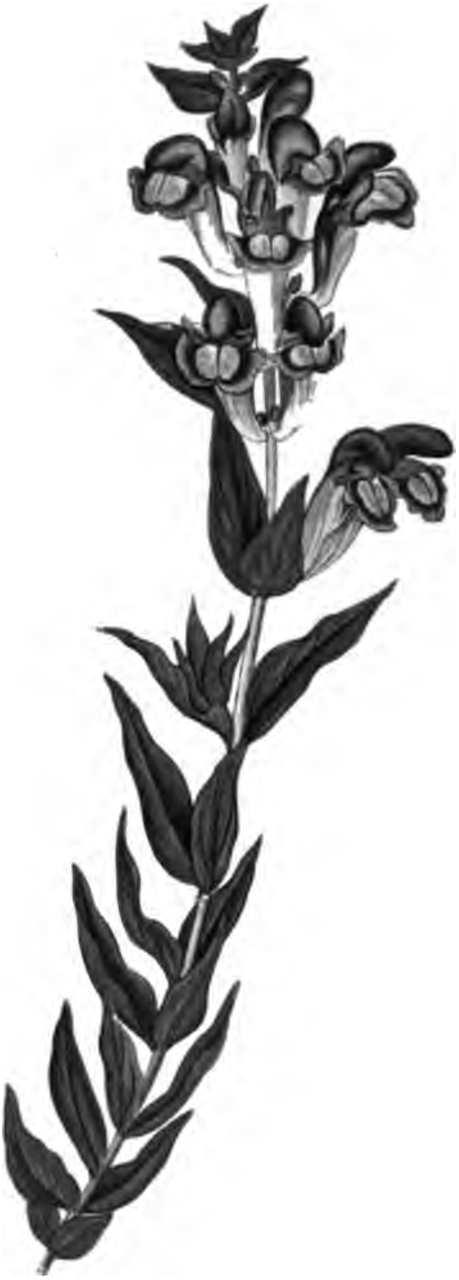
My thanks are due to Mr. Niven for the plant from which the illustration is taken.

Epilòbium is included in the order *Onagràceæ*, which consists of herbaceous plants or shrubs, many of which are well known and very beautiful, as the different kinds of Evening Primrose (*Œnothèra*), the Fuchsias, and the Enchanter's Nightshade (*Circæ̀a*). These plants are chiefly natives of the temperate parts of the world, and especially of America; a large number are found in Europe, a good many in India, and a few in Africa. The flowers of the plants of this order are red, purple, white, blue, or yellow; they are axillary or terminal, and they may be known by the tube of the calyx generally adhering to the ovary, and by its limb being usually two- or four-lobed, the lobes frequently adhering together; and by the petals, which are twisted in the bud, being either four or equal in number to the lobes of the calyx, and inserted in the mouth of the tube. The fruit is generally a capsule or a berry with two or four cells containing numerous seeds. The leaves vary considerably, being either alternate or opposite, entire or toothed, and simple, but never compound.

Many of the species of *Œnothèra* expand their very beautiful flowers only in the evening, and hence, being mostly yellow, have been called Evening Primroses. The roots of *Œ. biénnis,* and of some other species, are eatable. There are a great many very beautiful species and varieties of *Fúchsia.* Several of them bear fruits which are sub-acid and tolerably good to eat. Some of the species of *Clárkia* are very pretty annuals.



SEDUM KAMTSCHATICUM.



SCUTELLARIA MACRANTHA.

XXII

SEDUM KAMTSCHATICUM.

PLATE XXII.—FIG. I.

Sèdum Kamtschdticum, FISCHER AND MEYER. The Kamtschatka, or Orange-coloured Stonecrop.
Natural Order—CRASSULACEÆ.* The Crassula Family.

THIS species of Stonecrop is a native of Siberia, and it was introduced in 1829. It grows from three to six inches high, has dark green bluntly-toothed leaves, and orange-coloured flowers, which are produced in terminal cymes in the summer. It will be found suitable either for planting on rockwork or in the flower-border. The most suitable soil for it is a gravelly or sandy loam.

The figure in our plate is from a plant kindly sent by Mr. Niven.

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* The order *Crassulàceæ* has been already described in vol. i., p. 5; and for other species of *Sèdum*, see pp. 15, 26, 44, 55, and 86.

SCUTELLARIA MACRANTHA.

PLATE XXII.—FIG. II.

Scutellària macrántha, FISCHER. The Large-flowered Skull-cap.
Natural Order—LABIATÆ.* The Labiate Family.

THIS handsome Skull-cap is a native of Eastern Asia, and it was introduced in 1848. It is perfectly hardy, will grow in any good garden soil, and continues a long time in flower. The large rich purple flowers, which are produced in summer in large terminal spikes or racemes, have a striking effect either in the flower-border or in pots. The plant may be increased by division of the root and by seeds.

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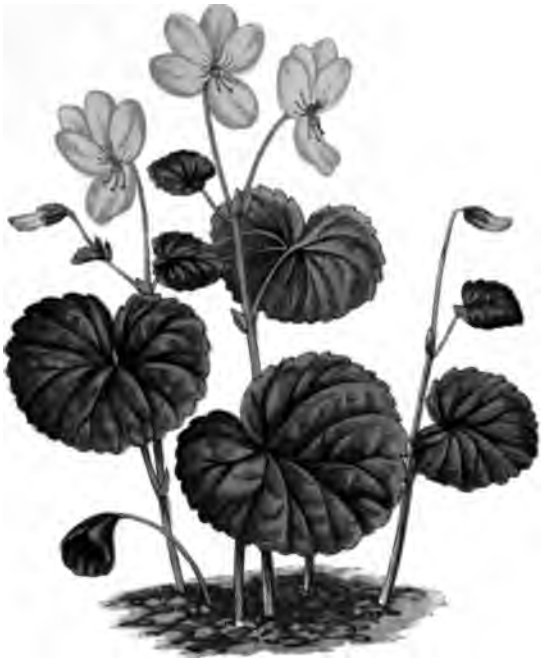
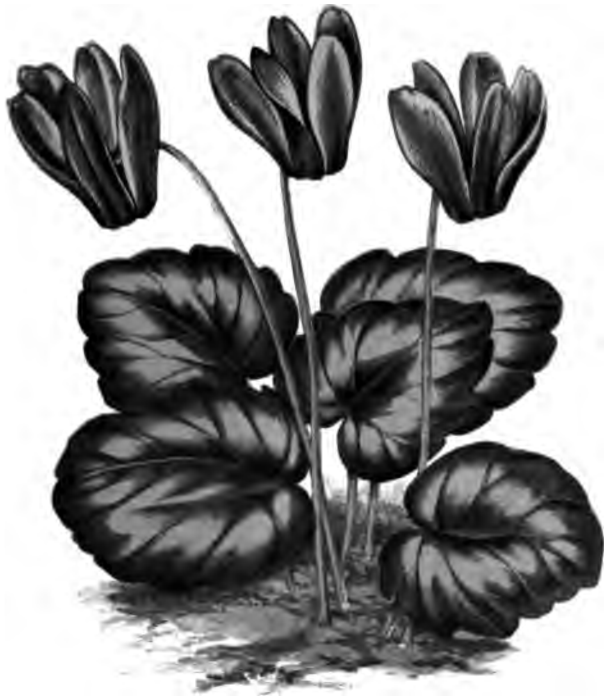
* For a description of the order *Labiàtæ*, see vol. i., p. 64; and for that of the genus *Scutellària*, see also p. 64.





VIOLA BIFLORA.

CYCLAMEN REPANDUM.

XXIII

VIOLA BIFLORA.

PLATE XXIII.—FIG. I.

Viola biflòra, Willdenow. The Two-flowered or Yellow Alpine Violet.
Natural Order—Violaceæ.* The Violet Family.

This little yellow Violet grows from three to four inches high, and is suitable for planting on rockwork, in the chinks of which it will soon establish itself if the soil (of rich loam and sand) in which it is planted is damp. It is a native of the Alps, of the South of Europe, and of Siberia. It flowers in April and May, and having creeping roots, it is easily increased by division. The leaves are kidney-shaped.

There is a variety of this species which has only one flower on each stem.

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* The order *Violàceæ* is described in p. 14 of this volume.

CYCLAMEN REPANDUM.

PLATE XXIII.—FIG. II.

Cy'clamen repándum, Smith. The Repand or Angular-leaved Cyclamen.
Natural Order—Primulaceæ.* The Primrose Family.

This very distinct and beautiful Cyclamen is a native of Greece, whence it was introduced about 1806. It may be easily recognised by the leaves, which are somewhat angular, instead of being rounded (as is generally the case with the species of this genus), blotched with white on the upper side, and of a bright reddish purple beneath. The delightfully fragrant flowers are of a very rich crimson, and form an agreeable contrast to the Persian Cyclamen. A light and somewhat sandy soil will be found most suitable for this plant, and it may be grown either in pots, in the fissures of rockwork, or in a warm border. It requires to be somewhat shaded in summer, and to be kept nearly dry in winter. It is generally propagated by seed, which should be sown as soon as it is ripe.

This species is sometimes called *C. ficariæfòlium.*

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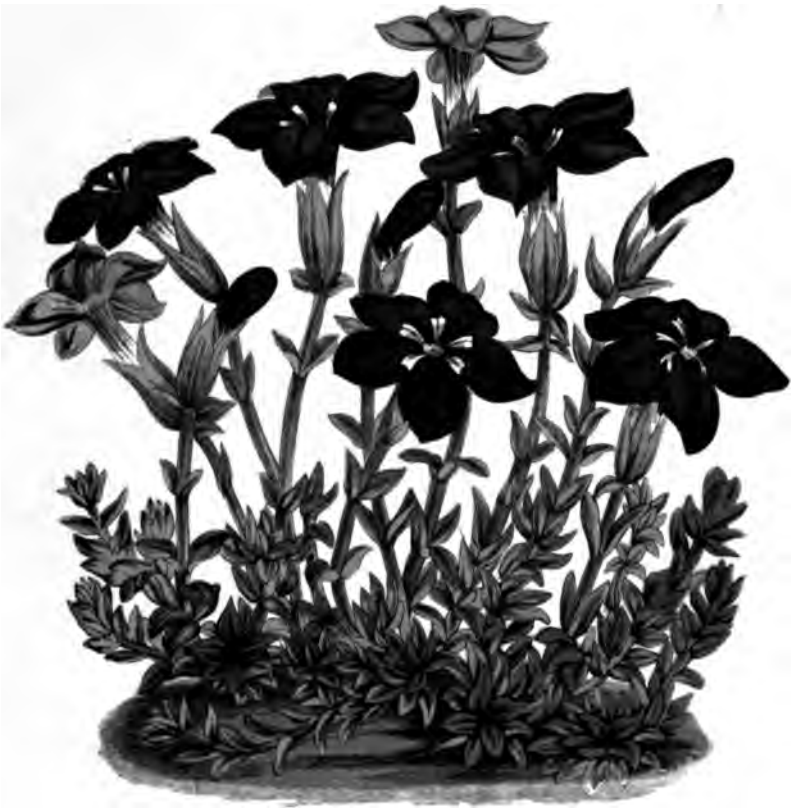
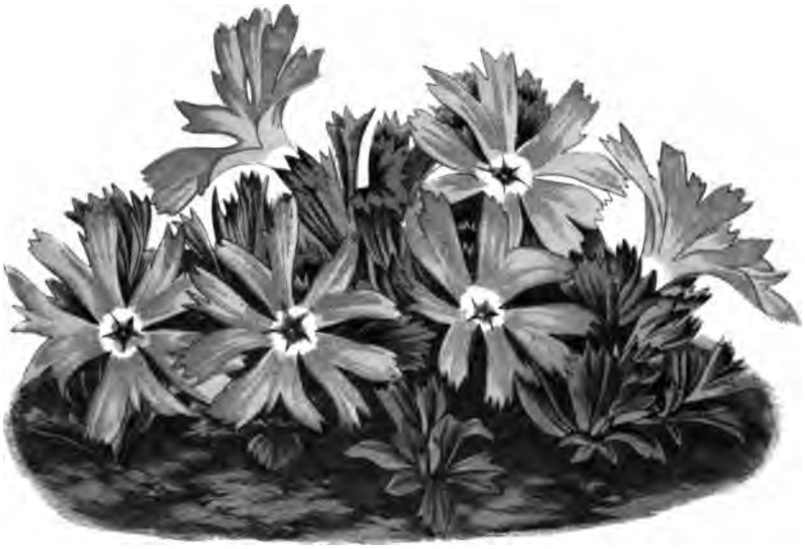
* The order *Primulàceæ* has been already described in vol. i., p. 14; and for a description of the genus *Cy'clamen*, see p. 80.





GENTIANA BAVARICA.

PRIMULA MINIMA.

XXIV

GENTIANA BAVARICA.

PLATE XXIV.—FIG. I.

Gentiàna bavárica, Willdenow. The Bavarian Gentian.
Natural Order—Gentianaceæ.[*] The Gentian Family.

This lovely little Gentian, which resembles *G. vérna* (having, however, flowers of a darker colour, and smaller box-like leaves), grows in dense tufts, about two or three inches in height, and produces its very brilliant blue flowers (which are hardly to be surpassed) in May and June. It is a native of the high Alps of Europe, where it is found in meadows in spongy, boggy places, and in cultivating it, it is necessary to plant it in very wet boggy soil, mixed with loam and grit, in situations fully exposed to the light; or if grown in pots, the pots should be plunged in sand, and the plants should be abundantly watered, or the pots should stand in water. It is increased by dividing the tufts (which should be done with great care), or by seed, if it ripens.

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[*] A description of the order *Gentianàceæ* will be found in vol. i., p. 50; and for other species of *Gentiàna*, see pp. 49 and 133.

PRIMULA MINIMA.

PLATE XXIV.—FIG. II.

Prímula mínima, LINNÆUS. The Least Primrose.
Natural Order—PRIMULACEÆ.[*] The Primrose Family.

THIS, the smallest known species of *Prímula*, grows on the tops of the highest mountains of the South of Europe, at an elevation of seven or eight thousand feet above the level of the sea. The flower, which varies from pink to purplish violet and even white, is large in proportion to the rest of the plant, being frequently an inch across. The leaves are disposed in rosettes: they are wedge-shaped, about half an inch in length, and sharply toothed at the top. A very suitable Primrose for rockwork, flowering in early summer. It should be planted in well-drained fissures in rich loam and grit, and kept moist. It is increased by carefully dividing the roots.

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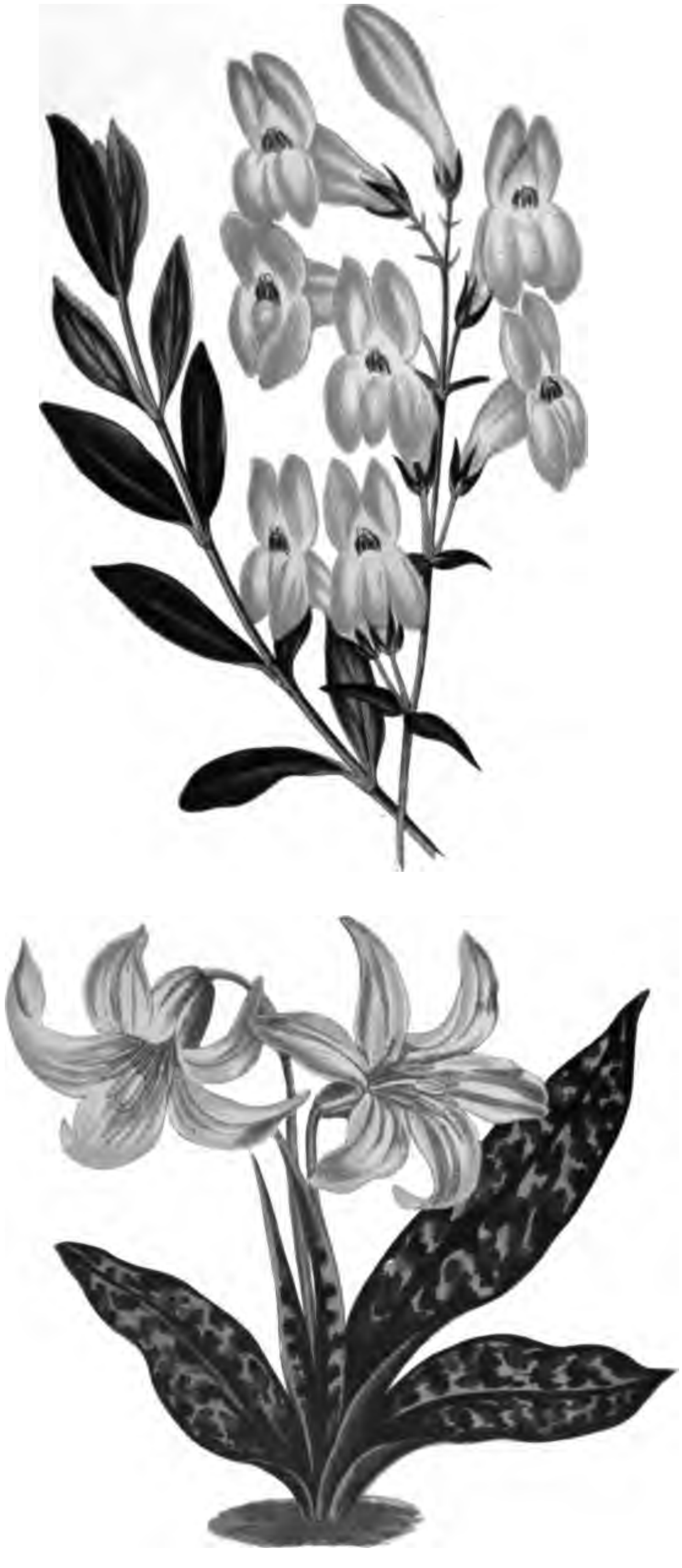
[*] The order *Primulàceæ* will be found described in vol. i., p. 14.



PENTSTEMON CRASSIFOLIUM.
ERYTHRONIUM AMERICANUM.
XXV

PENTSTEMON CRASSIFOLIUM.

PLATE XXV.—FIG. I.

Pentstèmon crassifòlium, Lindley. The Thick-leaved Pentstemon.
Natural Order—Scrophulariaceæ.* The Figwort Family.

This handsome Pentstèmon is a native of the north-west coast of North America, where it was found by the unfortunate David Douglas, who sent seeds of it to the Horticultural Society of London. It is a hardy suffruticose plant, growing about a foot high, thriving in a peat border, or in any rich garden soil, and flowering freely towards the end of May. It does not produce seed freely, and is therefore generally increased by layers or by cuttings at any time from July to September. A healthy plant will emit numerous small roots along the young shoots and stems, and these shoots, if taken off and potted, or laid down and slightly covered with good rich soil, will soon make strong plants. If seeds are ripened, they should be sown at once, in any good rich soil, in pots placed in a cold pit; but plants so obtained will not flower before the second year.

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* The character of the order *Scrophulariàceæ* will be found in vol. i., p. 4; and for a description of the genus *Pentstèmon*, see p. 136.

ERYTHRONIUM AMERICANUM.

PLATE XXV.—FIG. II.

Erythrònium americànum, KER. The Yellow-flowered Dog's-tooth Violet.
Natural Order—TULIPACEÆ. The Tulip Family.

Erythrònium is a small genus of nearly stemless bulbous plants, with two very smooth elliptical leaves, which are usually spotted with purple. The flowers are bell-shaped or recurved. All the species are easily cultivated, and are readily increased by offsets.

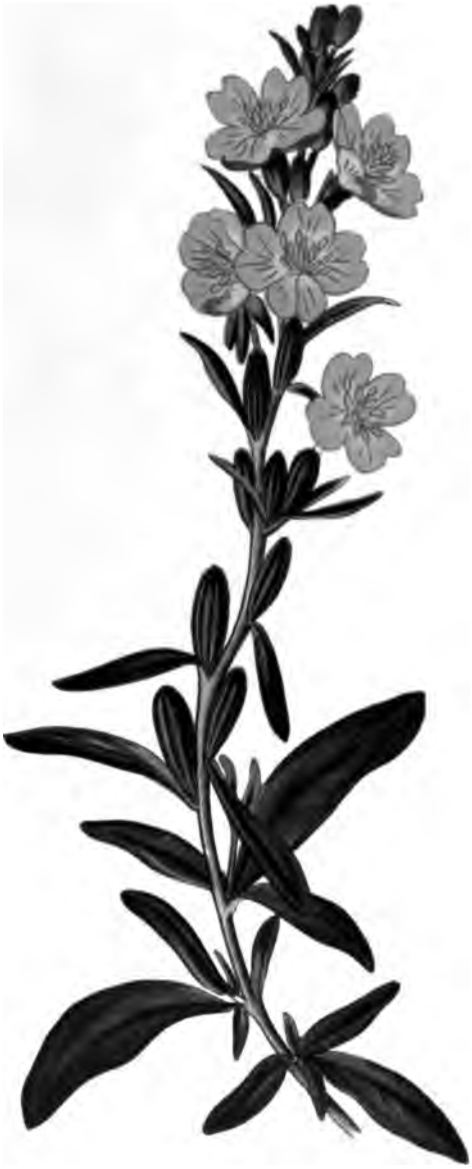
The name of *Erythrònium* is from *erythros*, red, and is given in allusion to the colour of the leaves and flowers.

The Common Dog's-tooth Violet (*E. Dèns cànis*), which was introduced in 1596, is a native of Southern Europe and temperate Asia, and is a very ornamental and well-known plant, with purple flowers (varying to a pale pink, and even to white), which appear in March and April. It is very useful for beds in a spring garden, or as an edging to beds in shrubberies.

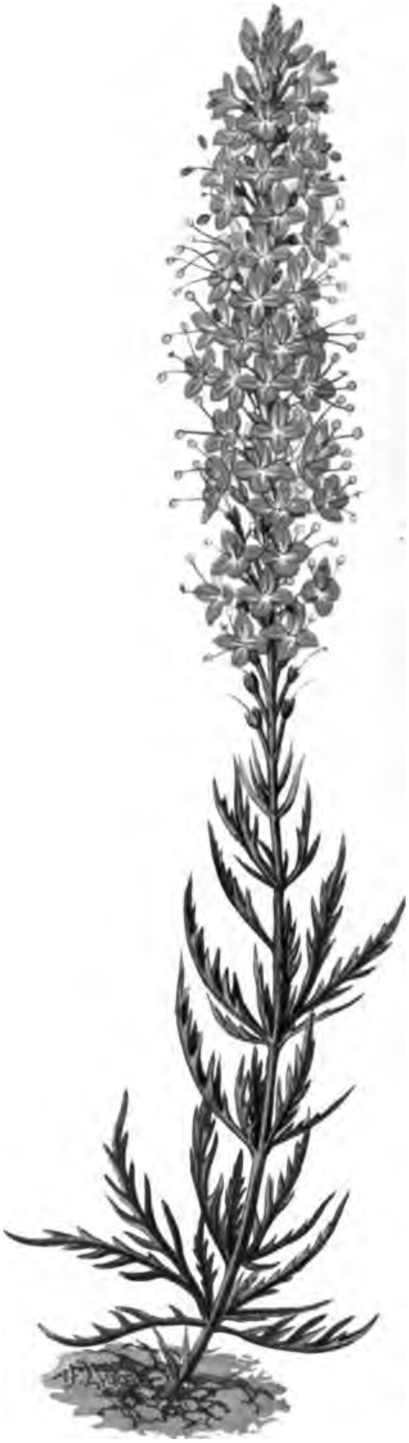
E. americànum is a native of North America, where it is found from Canada to Virginia, in woods (near the roots of old trees), and on the banks of rivulets: it is also found on the banks of the Missouri. It grows about six inches high, and produces its pretty bright yellow flowers in April. The leaves are of a glaucous green, variegated with liver-coloured blotches, and if looked at through a magnifying glass will be found to be roughened by minute pointed tubercles. The plant should be grown in good loamy soil, or a mixture of loam and peat. It will be found suitable for planting either on rockwork, or in beds in the spring garden. It may be increased by dividing the bulbs.

There is a variety of *E. americànum* which has brown spots at the base of the flowers.

Erythrònium belongs to the order *Tulipàceæ*, which contains plants of great beauty, inhabitants of either cold or temperate latitudes. All these plants have a regular perianth of six segments, with six stamens, and a dry or fleshy capsule of three cells, opening by as many valves. Some of the genera have more seeds than others, and some of the seeds have a hard, dry, black skin, while others have the skin spongy and soft. Besides *Erythrònium,* there are included in the order the lovely Lilies (*Lílium*), the gorgeous Tulips (*Tùlipa*), the stately *Yúcca,* or Adam's Needle, the pretty Fritillary (*Fritillària*), and the splendid *Gloriòsa.* Some of the plants have the flowers erect and single, as in the Tulip; in others the flowers are erect, but in umbels, as in the Orange Lily; and in others they are in racemes and drooping, as in the Yúcca, or single and drooping, as in the Fritillary, or with the segments curved back, as in the Martagon Lily. Some of the Japan Lilies are most delightfully fragrant, one of the most striking of these being *Lílium auràtum.*



ŒNOTHERA PUMILA.



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XXVI

ŒNOTHERA PUMILA.

PLATE XXVI.—FIG. I.

Œnothèra pùmila, WILLDENOW. The Dwarf Œnothera.
Natural Order—ONAGRACEÆ.* The Evening Primrose Family.

THE species of *Œnothèra* are very ornamental plants, natives of North and South America, easily cultivated in light rich soil, and increased either by seeds or by cuttings. The flowers of some of the species are yellow, while others are white or purple, and they usually open at night. One of the best known species (*Œ. biénnis*), which was introduced from North America in 1629, has now become naturalized in some parts of England; and it is said that a species with large white flowers has run wild over some parts of the Neilgherry Hills in India.

The name of *Œnothèra* signifies an incentive to wine-drinking, and it was given in allusion to the custom which formerly prevailed of eating the roots of *Œnothèra biénnis* with wine.

Œ. pùmila grows about a foot high, sending out numerous flowering stems, which, for several months, produce a regular succession of flowers, and these are open in the morning as well as in the evening, thus rendering the plant very ornamental and desirable for the border or for rockwork. It is a native of North America, whence it was introduced in 1757; it is quite hardy, and it is easily increased by seeds, by cuttings, or by dividing the roots in the autumn. The most suitable soil for it is a mixture of loam and peat.

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* The order *Onagràceæ* is described in p. 46 of this volume.

VERONICA INCISA.

PLATE XXVI.—FIG. II.

Verónica incísa, SCHREBER. The cut-leaved Speedwell.
Natural Order—SCROPHULARIACEÆ.* The Figwort Family.

A HARDY perennial Speedwell, introduced from Siberia in 1779, growing to the height of two feet, and producing its delicate flowers in July and August. It is suitable for planting in the flower-border, thriving in good loamy soil. It is easily increased by dividing the roots in the spring.

I have to express my thanks to Mr. Niven for an opportunity of figuring this plant.

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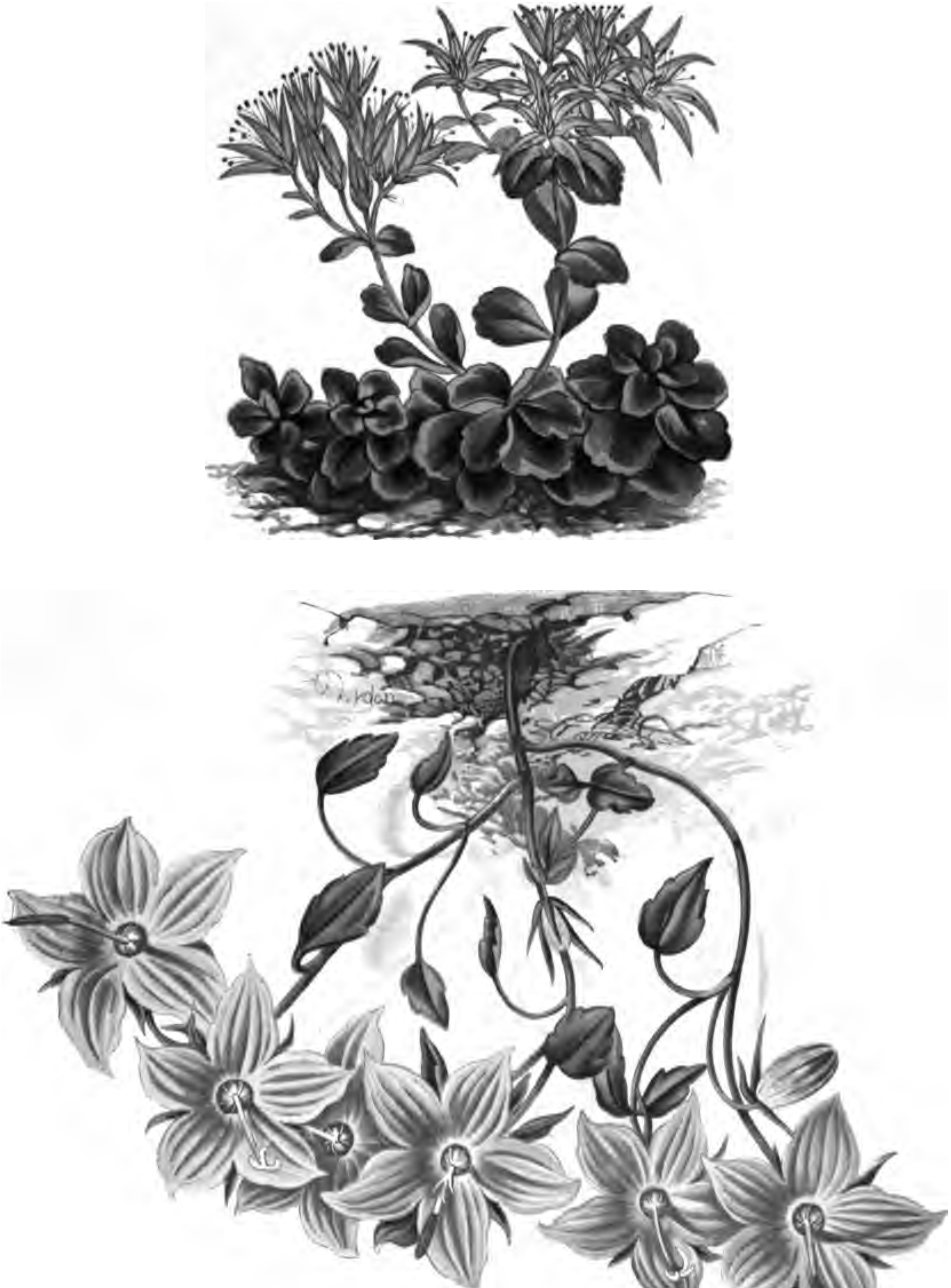
* The order *Scrophulariàceæ* will be found described in vol. i., p. 4.



SEDUM SPURIUM.

CAMPANULA BARRELIERI.

XXVII

SEDUM SPURIUM.

PLATE XXVII.—FIG. I.

Sèdum spùrium, WILLDENOW. The Fringed Stonecrop.
Natural Order—CRASSULACEÆ.* The Crassula Family.

THIS Sèdum (which strongly resembles *Cràssula crenàta*) is a native of the Caucasus, whence it was introduced in 1816, and where it is found growing on the rocks about the hot springs of the Constantine Mountain, and abundantly near the summit of Mount Beschtan. It is quite hardy, and well adapted for planting either in the flower-border or on rockwork. It grows about six or eight inches high, and flowers in summer.

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* For a description of the Order *Crassulàceæ*, see vol. i., p. 5.

CAMPANULA BARRELIERI.

PLATE XXVII.—FIG. II.

Campánula Barrelièri, Presl. Barrelier's Bell-Flower.
Natural Order—Campanulaceæ.* The Bell-Flower Family.

This very beautiful little Campánula, which is found on rocks by the sea-side near Naples, has a procumbent habit, and it is very suitable for planting on rockwork, or for growing in pots. The flowers are of a very delicate blue, and they appear in May and June.

To Mr. Niven, of Hull, my thanks are due for obligingly sending the plant for illustration.

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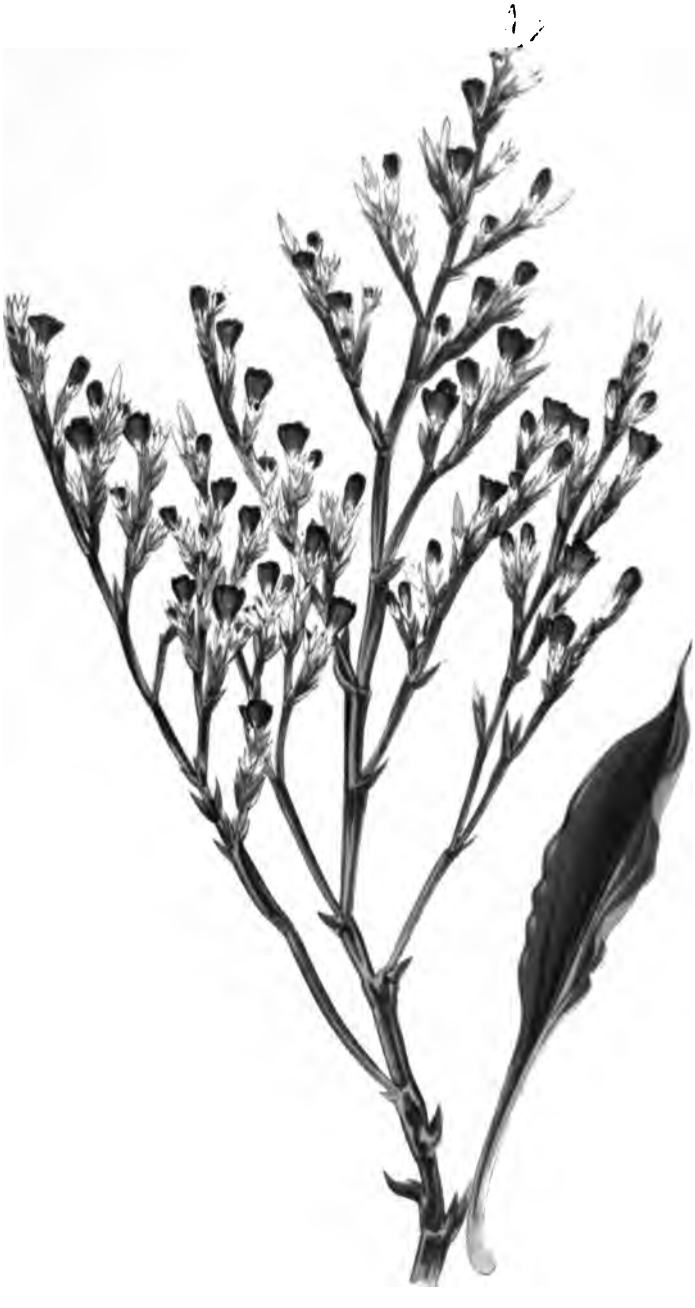
* The order *Campanulàceæ* will be found described in vol. i., p. 8.



STATICE INCANA NANA.

XXVIII

STATICE INCANA NANA.

PLATE XXVIII.

Státice incàna, LINNÆUS. The Hoary Sea Lavender.
Natural Order—PLUMBAGINACEÆ. The Leadwort Family.

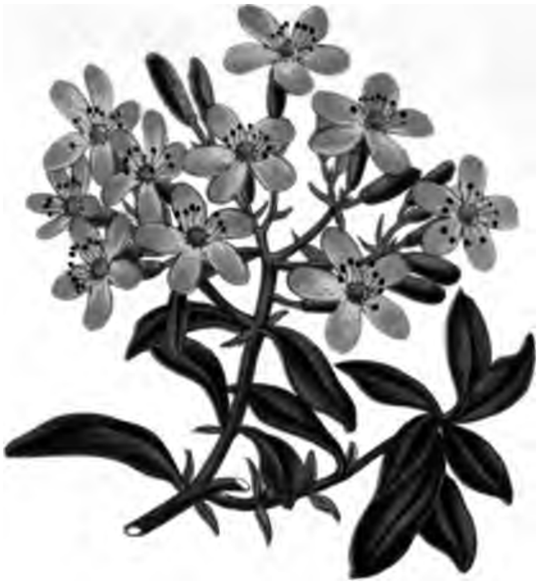
Státice is an extensive genus of herbaceous plants or under shrubs, the flowers of which are produced in spikes or panicles. The funnel-shaped calyx is in one piece and plaited. The corolla has five petals, to the base of which the stamens are attached. The one-seeded nut is enclosed in the calyx. The species are chiefly found in the south and east of Europe, in the Canary Isles, and in Central Asia, and they are most useful and ornamental both in the greenhouse and in the flower-garden. The greenhouse species succeed best in a mixture of sandy loam and peat, and are increased by cuttings. The hardy herbaceous kinds are increased by division in spring, or by seed.

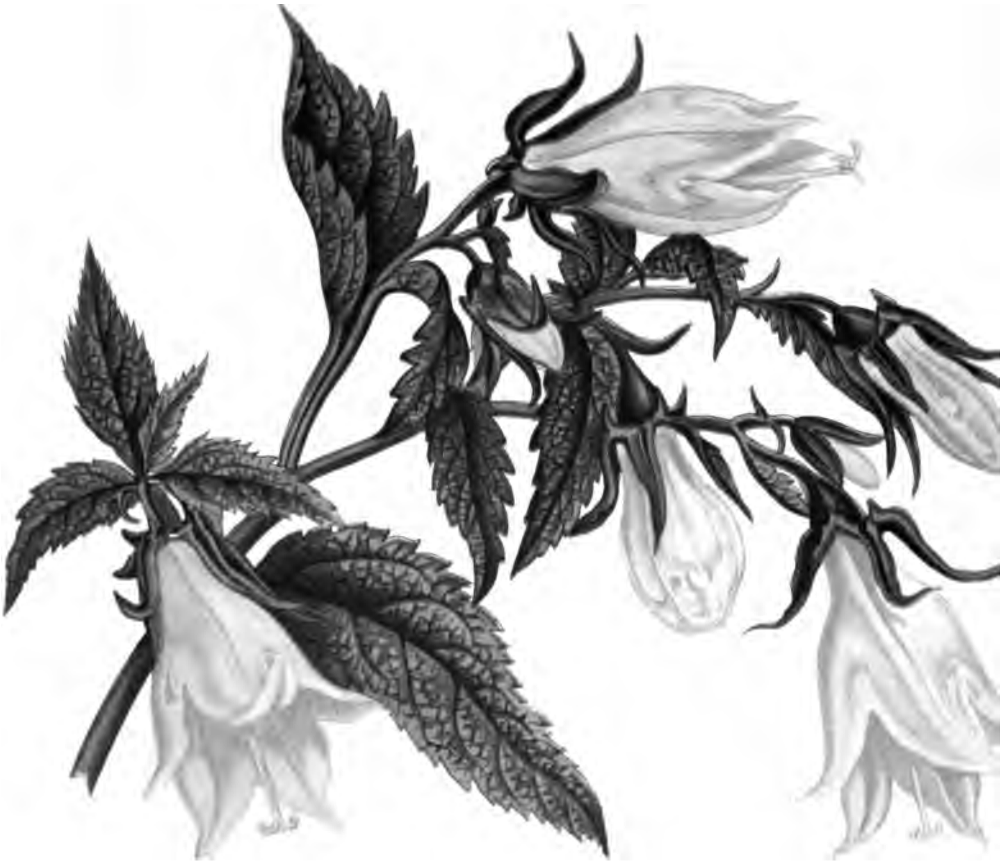
The name of *Státice* is from *statico*, to stop, in allusion to the powerful astringency of some of the species. The root of *S. caroliniàna* is said to be one of the most powerful astringents known.

S. incàna is a perennial species, growing about eighteen inches high, and producing numerous short spikes of crimson flowers (with a white calyx) from June to August. It is suitable for planting on rockwork or in the flower-border.

The order *Plumbaginàceæ* (to which *Státice* belongs) consists of low shrubs or herbaceous plants (mostly with showy red or blue flowers), inhabiting salt marshes and sub-alpine tracts in the temperate latitudes of both the northern and southern hemispheres. In these plants the corolla is either monopetalous, with the stamens free from the corolla, and growing from beneath the pistil, or with five petals, to which the stamens are attached. There are five styles and five stigmas, but the ovary is only one-celled and one-seeded. The fruit is thin and dry.

Plumbàgo (the Leadwort) and *Armèria* (the Thrift) are the principal genera included in the order besides *Státice.* All the species of the order are striking plants. The pedicels of all the kinds of Sea Lavender, especially of *Státice arbòrea,* are coloured, and are often mistaken for the flowers by the inexperienced. The root of *Státice Limònium* is astringent and tonic; and the root and whole plant of all the species of *Plumbàgo* are acrid and caustic.





SAPONARIA OCYMOIDES.

SYMPHYANDRA PENDULA.

XXIX

SAPONARIA OCYMOIDES.

PLATE XXIX.—FIG. I.

Saponària ocymöides, WILLDENOW. The Basil-like Soapwort.
Natural Order—CARYOPHYLLACEÆ.* The Pink and Carnation Family.

THE genus *Saponària* is allied to *Diánthus*, but the species are distinguished by the absence of bracts at the base of the calyx, and by the seeds not being flattened. Some of the species are annuals, some are perennials, and one is a biennial. One of the best known, perhaps, is *S. calábrica* (the Calabrian Soapwort), as it is frequently planted in beds in geometric flower-gardens, and so employed (as it produces an abundance of brilliant red flowers the whole of the summer, and grows close to the ground) it is most effective.

The generic name is from *sapo*, soap, and alludes to the soapy properties of the plants, as the bruised leaves, especially of the British species (*S. officinàlis*), will produce a lather, like soap.

S. ocymöides is a very beautiful species, with trailing stems and pink flowers, which are produced in great abundance during the whole of the summer. It is quite hardy, and it is admirably adapted for planting on rockwork or on walls, thriving best in sandy loam in pure air and a dry situation. It is readily increased by cuttings or by seed. It was introduced from the South of Europe in 1768.

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* A description of the order *Caryophyllàceæ* will be found in vol. i., p. 1.

SYMPHYANDRA PENDULA.

PLATE XXIX.—FIG. II.

Symphyándra péndula, ALPHONSE DE CANDOLLE. The Pendulous Symphyandra.
Natural Order—CAMPANULACEÆ.* The Bell-Flower Family.

THE genus *Symphyándra* may be recognized by the flowers having five stamens, the filaments of which are dilated at the base, fringed with hairs, and free, the anthers adhering so as to form a long cylindrical tube. The species are herbaceous perennials, with alternate leaves; natives of Crete and the Caucasus.

The generic name is from *symphio*, to grow together, and *aner*, an anther, in allusion to the combined anthers.

S. péndula grows about a foot high, and has ornamental white or cream-coloured flowers, which are abundantly produced nearly all the summer. It is a native of Mount Caucasus, and was introduced in 1824. It does not bear being fully exposed to the sun, and succeeds best in a cool shady situation, such as the north side of rockwork. It may be increased either by dividing the roots in the spring, or by seed.

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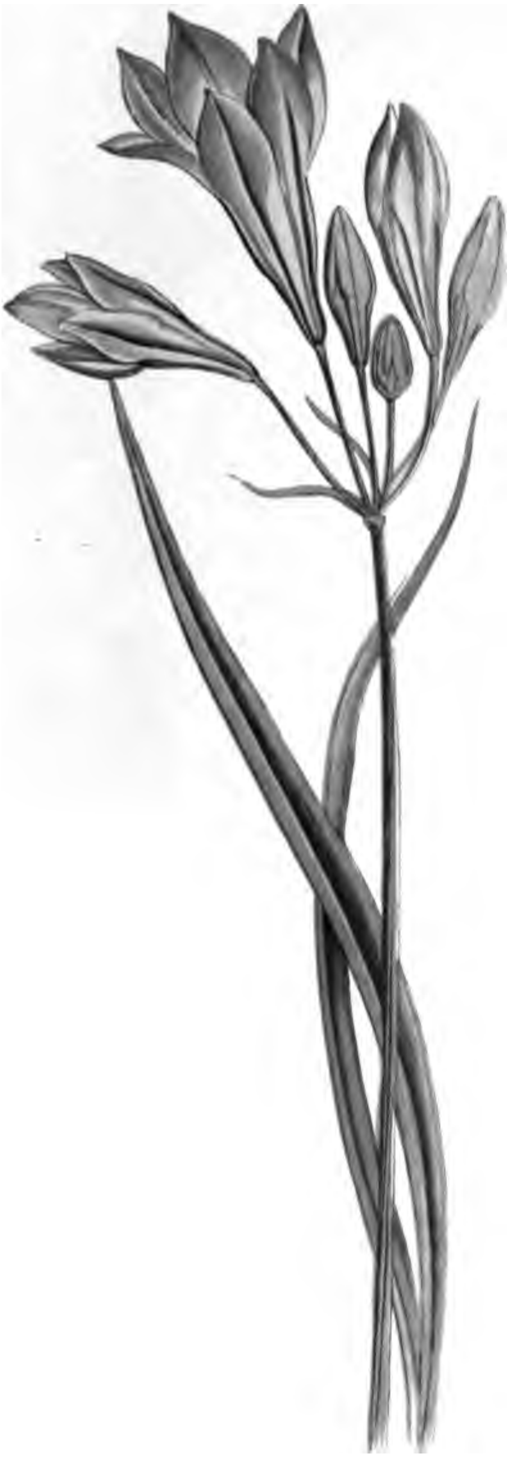
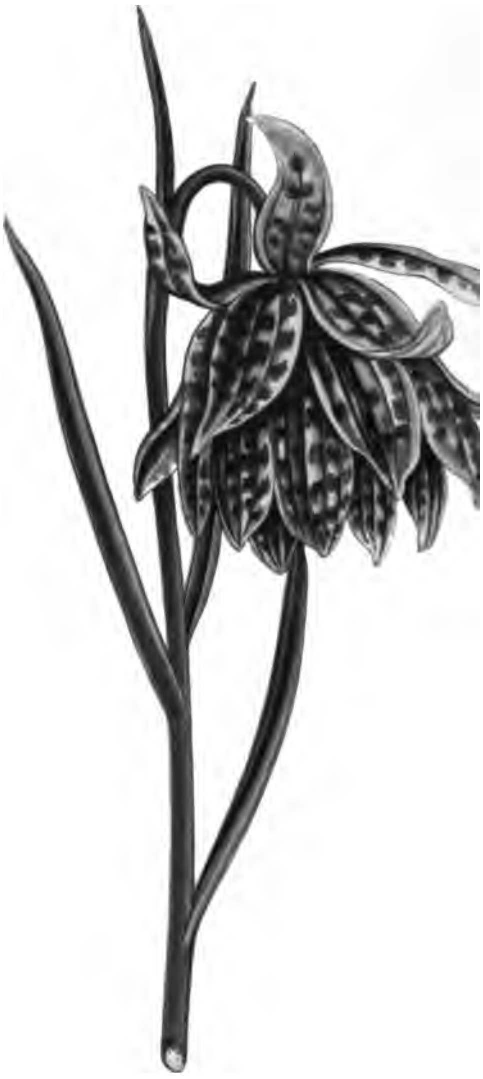
* The order *Campanulàceæ* will be found described in vol. i., p. 8.



TRITELEIA LAXA.



FRITILLARIA MELEAGRIS.

XXX

TRITELEIA LAXA.

PLATE XXX.—FIG. I.

Triteleìa láxa,[*] BENTHAM. The Loose-umbelled Triteleia.
Natural Order—ASPHODELACEÆ.[†] The Asphodel Family.

THE flowers of this beautiful Triteleia (frequently found in collections under the name of *T. Murrayàna*) grow in a lax umbel, and are about the size of those of *Brodiæ̀a grandiflòra,* and of the same deep blue colour. The species is a native of California,[‡] flowering in June and July, and it is easily cultivated, growing in common garden soil, but preferring a mixture of peat, loam, and sand. It is readily increased by offsets, as well as by seeds, which are freely produced.

I have to thank Mr. Niven for kindly forwarding the plant from which the figure in our plate is taken.

[*] *Mílla láxa,* Baker; *Seubértia láxa,* Kunth.

[†] For a description of the order *Asphodelàceæ,* see vol. i., p. 57; and for that of the genus *Triteleìa,* see p. 21 of this volume.

[‡] Messrs. Backhouse and Son, in the edition for 1873 of their useful Catalogue, make the following statement:—"As regards the culture of Californian Plants in general, and especially of the bulbs of that region, we are informed that, in their native land, the weather, *after the flowering season,* gradually becomes drier and drier, till, under the influence of the summer's sun, the foliage of these plants withers away, and everything remains hot and *dry* till the late autumnal rains again stimulate them to make root. So that it is evident that, where possible, exposure to excessive wet in summer should be jealously guarded against; in other words, that situations should be selected, where, from perfect drainage, etc., the natural conditions can be imitated as far as possible."

FRITILLARIA MELEAGRIS.

PLATE XXX.—FIG. II.

Fritillària Meleàgris, Willdenow. The Chequered or Common Fritillary.
Natural Order—Tulipaceæ.* The Tulip Family.

The species of *Fritillària* are very ornamental bulbous plants, found in North America, the South of Europe, and in Asia. They have erect annual stems, alternate or whorled leaves, and nodding bell-shaped flowers, which are sometimes solitary and terminal, sometimes disposed in the form of a raceme in the axils of the upper leaves, or sometimes collected into a whorl beneath a terminal leafy tuft, as in the well-known Crown Imperial (*F. imperiàlis*). They all grow well in deep rich loamy soil in the open garden, requiring to be taken up and re-planted every three or four years, and they may be increased by offsets.

The name of *Fritillària* is from *Fritillus*, a chess-board, in allusion to the chequered flowers of most of the species.

F. Meleàgris is a British species, and is found wild in moist meadows or near rivers in several parts of England, especially in the southern and eastern counties. It has a small roundish bulb, an erect stem, about a foot in height, with three or four linear or somewhat lanceolate leaves, and a single terminal drooping flower, which is usually of a dull red, marked inside with chequered lines and spots. The plant flowers in March and April, and is suitable for beds in a spring garden. There are several varieties: one has white and another yellowish flowers.

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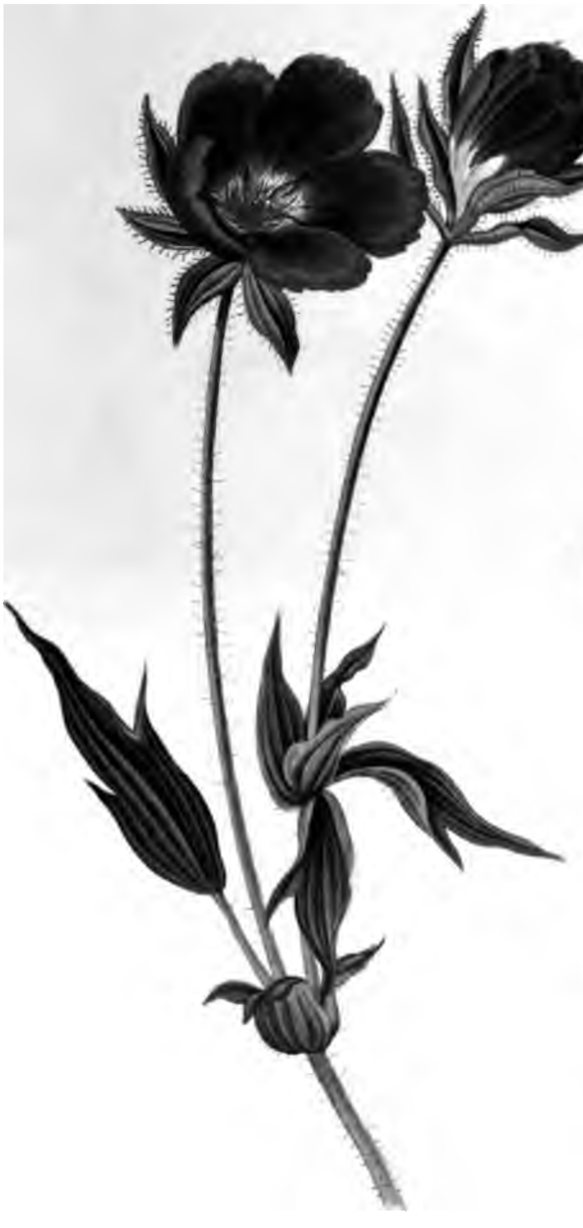
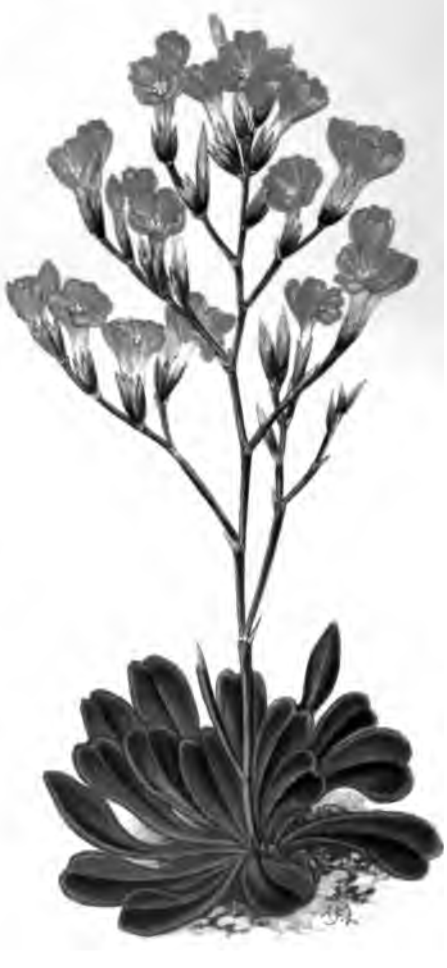
* The character of the order *Tulipàceæ* will be found in p. 56 of this volume.



CALLIRHOË INVOLUCRATA



STATICE EMARGINATA.

[illegible]

CALLIRRHOË INVOLUCRATA.

PLATE XXXI.—FIG. I.

Callirrhöë involucràta, GRAY. The Involucrated Callirrhoë.
Natural Order—MALVACEÆ. The Mallow Family.

THE beautiful North American Mallow-like plants included in the genus *Callirrhöë*, are herbaceous perennials, formerly, and sometimes even now, found under the name of *Nuttállia*, which more properly belongs to a genus of Rosaceous plants. The species differ only very slightly from *Málva*, chiefly in the fruit, but also in the absence, in some of the species, of the involucre which is commonly found below the calyx in most Malvaceous plants.

C. involucràta is a procumbent plant, growing about six inches high, and producing its handsome purplish crimson flowers on long peduncles in July. It is a native of North America, where it was first found in the valley of the Loup Fork of the Platte. It is very suitable for rockwork, and it may also be planted in the flower-border, but a sunny situation should be chosen for it. The soil best suited to it is a mixture of good sandy loam and peat. It may be increased by division in the spring, or by seed.

For an opportunity of figuring this plant I have to express my acknowledgments to Mr. Niven.

The order *Malvàceæ* contains plants of great beauty, all bearing so striking a resemblance to each other, that they may generally be easily recognized. The greater part of them will be found clothed with stellate pubescence; and in the flowers of all there is a central column, round which are placed numerous carpels, which grow together and form a many-celled capsule: the anthers are one-celled, and kidney-shaped. There is almost always an involucre below the calyx, differing, however, in the different genera. In *Callirrhöë* the involucre, when present, consists of from one to three leaflets: the calyx has five sepals, and the corolla has five wedge-shaped petals; the filaments of the stamens are united into a tubular column, and the numerous one-seeded carpels are united by a short beak. In the genus *Málva,* the involucre consists of three leaflets, which, in the Common Mallow (*Málva sylvéstris*), are oblong. The petals are wedge-shaped, and they are set so far apart that light can be seen through them. The stamens, all of which are nearly of the same height, form a kind of bunch round the styles, which are pointed. The capsule consists of a circle of woolly-looking carpels, growing close together, but easily detached with a pin, and each fitting into a little groove in the receptacle in which they are placed. As the seeds ripen, the involucre falls off, but the large loose-looking calyx remains on. There is only one seed in each carpel, but as there are generally eleven carpels in each capsule, each seed-vessel contains this number of seeds. The leaves are lobed and toothed, and the whole plant is covered with long hairs, which are disposed in little star-like tufts. In the genus *Málope,* which closely resembles the Mallow in many particulars, the petals are not wedge-shaped, and the calyx is still larger, the long sepals shrouding the capsule as the involucre of the filbert does the nut. The involucre is composed of three broad, heart-shaped leaflets, which remain on till the seed is ripe. The petals are not so even along the margins as those of *Málva,* and the carpels are so arranged as to form a cone-shaped capsule instead of a flat one. In the genus *Lavátera* (the Tree Mallow) the leaflets of the involucre are joined to the middle, and form a kind of three-cornered saucer below the capsule, the capsule being completely covered with a part of the receptacle, which is dilated and curved down over it. And in the genus *Althæ̀a* (the Marsh Mallow), the involucre is cleft into six or nine divisions, and the carpels are united into a globular capsule.

The following well-known plants, in addition to those already mentioned, belong to this order:—the Hollyhock (*Althæ̀a ròsea*); the Althæa frutex (*Hibíscus syrìacus*), and numerous other beautiful species of *Hibíscus; Abùtilon* (of which there are many very beautiful species); and the Cotton Plant (*Gossy'pium*). This last furnishes the down which is used to an enormous extent in the cotton manufacture. This down is found lining the capsules which contain the seeds, and if examined by the microscope, the threads will be seen to be finely toothed, which explains the cause of their adhering together so readily. There are several species cultivated for the supply of cotton in different parts of the world: *G. herbàceum* is, however, the species most commonly grown. *G. hirsùtum* and *G. barbadénse* are two species grown in the

West Indies; while in the East Indies and in China the kinds are *G. herbàceum*, *G. arbòreum*, and some other species (especially that which produces the nankeen-coloured down). An oil is obtained from the seeds of all the species; while in the Levant the seeds of *G. herbàceum* are eaten, and are considered wholesome and nutritious.

All the Malvàceæ abound in nutritive mucilage; and the strong woody fibre found in the stems of many may be successfully employed in the manufacture of paper, ropes, and other articles.

STATICE EMARGINATA.

PLATE XXXI.—FIG. II.

Státice emarginàta, WILLDENOW. The emarginate Sea-Lavender.
Natural Order—PLUMBAGINACEÆ.* The Leadwort Family.

THIS species of Sea Lavender, which is a native of Gibraltar, grows about nine inches high, and produces its blue flowers in panicles from May to July. It should be grown in sandy loam; and it may be increased by division.

To Mr. Niven my thanks are due for obligingly sending the plant from which the illustration in the plate is taken.

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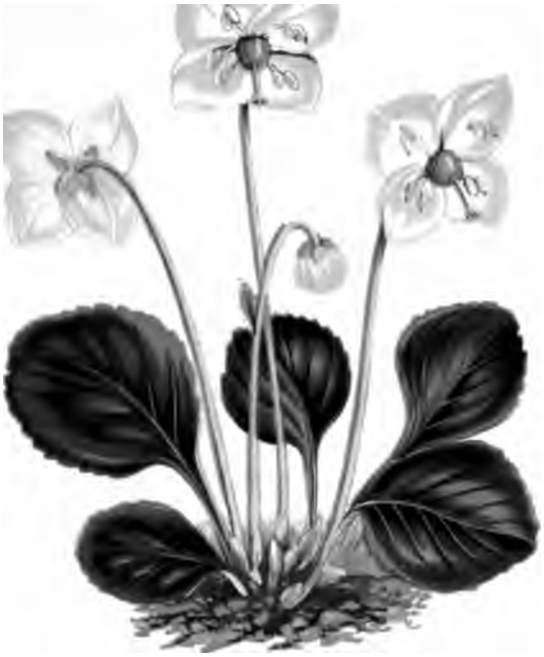
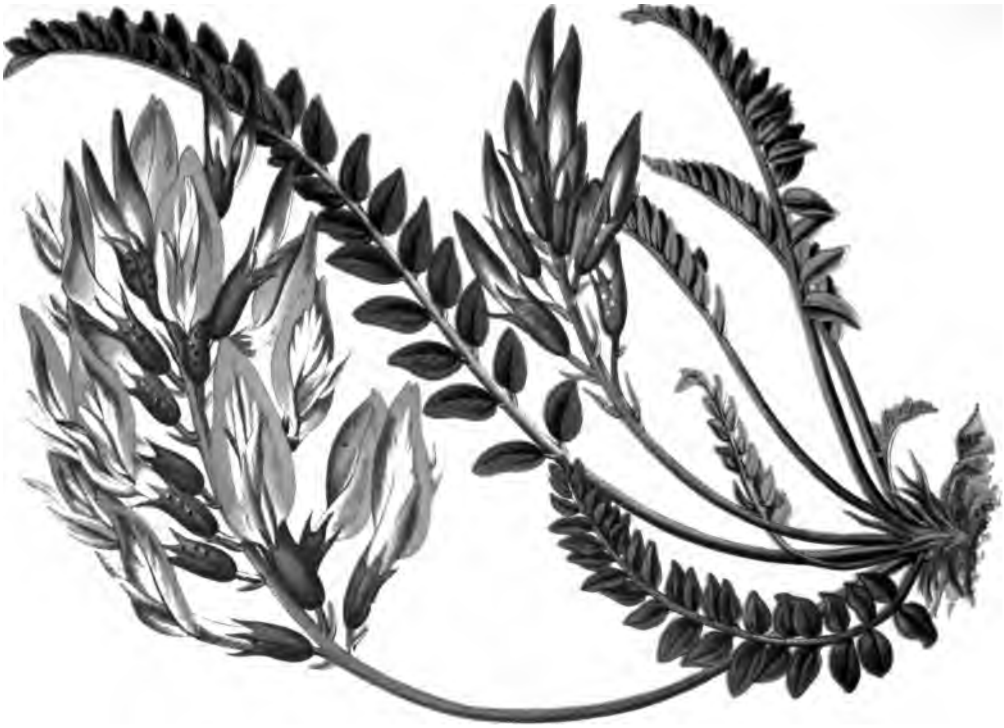
* The order *Plumbaginàceæ* has been already described in p. 63 of this volume.





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XXXI

PYROLA UNIFLORA.

PLATE XXXII.—FIG. I.

Py'rola uniflòra, WILLDENOW. The single-flowered Winter Green.
Natural Order—ERICACEÆ.[*] The Heath Family.

Py'rola is a small genus of very elegant little plants (most of which are evergreens), growing naturally in the shade and in rocky or very poor soils. In the garden they should be grown in a mixture of sandy peat, loam, and leaf mould in moist but well-drained and rather shaded situations. They may be increased by division or by seed. There are five British species, and several are natives of North America. All the species are powerfully astringent and tonic.

The generic name is a diminutive of *Py'rus* (the pear tree) from the resemblance of the leaves to those of the Pear.

P. uniflòra is a very curious and elegant British species (found very sparingly in moist alpine woods in Scotland), the slender perennial roots of which strike deep among the moss on the borders of rills and watercourses. The flower, which appears in July and is rather large compared with the size of the plant, is white, delicately veined with pink, and very fragrant. The pores of the anthers form little protruding tubes, much more prominent than in the other species, although they are sometimes observable in the Common Winter Green (*P. mìnor*). The style is short and nearly straight, with a broad five-lobed stigma.

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[*] The description of the order *Ericàceæ* will be found in vol. i., p. 23.

ASTRAGALUS MONSPESSULANUS.

PLATE XXXII.—FIG. II.

Astrágalus monspessulànus, WILLDENOW. The Montpelier Milk Vetch.
Natural Order—LEGUMINOSÆ.* The Leguminous Family.

Astrágalus is an extensive genus of ornamental perennials with woody roots, frequently spiny branches, unequally pinnate leaves, and axillary racemes or spikes of pink, purple, bluish, pale yellow, or white flowers. Three of the species are British, viz.: *A. glycyphy'llos*, *A. hypoglóttis*, and *A. alpinus*. *A. Tragacántha* was formerly supposed to yield the gum Tragacanth of commerce; but Olivier ascertained that it was generally obtained from *A. vèrus*. Probably both species, and, perhaps, some others, yield this gum. The gum exudes naturally from the bark in summer, more or less copiously according to the heat of the weather. The seeds of *A. bæ'ticus*, roasted and ground, are used as a substitute for coffee in Hungary.

Astrágalus was a name given by the Greeks to one of their Leguminous plants, but to which it does not appear to be known.

A. monspessulànus is a prostrate plant, with rather large racemes of crimson flowers (which appear in July), a native of the South of France, growing in great abundance on the rocks near Montpelier. It was introduced by Dr. William Pitcairn in 1776. It will be seen to the greatest advantage when planted on the elevated parts of rockwork, so that the flowering branches can hang down, or it may be grown in pots; but it is not so suitable for the flower border, as the flowers are easily injured or disfigured by heavy rain when lying on the ground. It may be increased by seeds or by cuttings. It appears to thrive best in good loamy soil.

There is a variety with white flowers.

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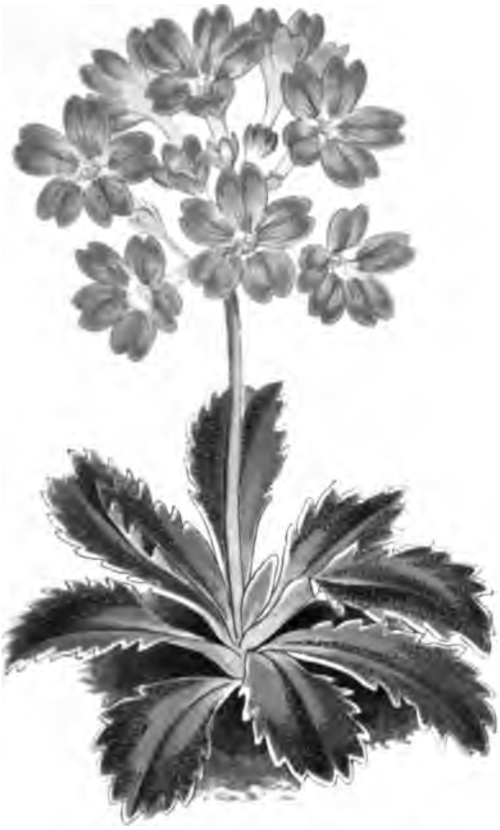
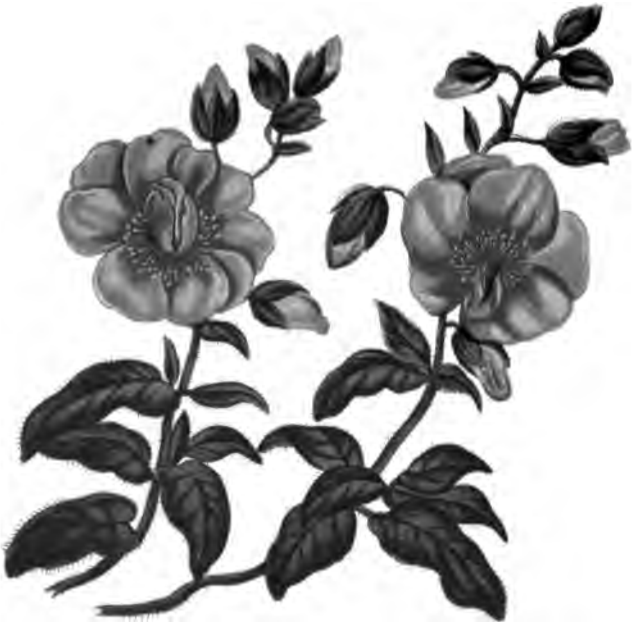
* The order *Leguminòsæ* will be found described in vol. i., p. 89.





PRIMULA MARGINATA.

HELIANTHEMUM ROSEUM.

XXXIII

PRIMULA MARGINATA.

PLATE XXXIII.—FIG. I.

Prímula marginàta, WILLDENOW. The Silver-edged Primrose.
Natural Order—PRIMULACEÆ.* The Primrose Family.

THIS very pretty little Primrose (easily distinguished by the silvery margins of the leaves) is a native of the Alps of Tauria and Dauphiny, and was introduced in 1781. It should be planted in deep sandy loam, either in the flower-border or in rather dry fissures on rockwork. The pale purple or lilac flowers are produced in umbels in April and May. There is a variety (*P. marginàta màjor*) which is larger than the species, and has flowers of a darker colour.

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* The description of the order *Primulàceæ* will be found in vol. i., p. 14.

HELIANTHEMUM ROSEUM.

PLATE XXXIII.—FIG. II.

Heliánthemum ròseum, A. P. de Candolle. The Rose-coloured Sun-Rose.
Natural Order—Cistaceæ. The Rock-Rose Family.

Most of the plants forming the genus *Heliánthemum* are low-growing prostrate shrubs or under-shrubs, with very showy flowers, nearly allied to *Cístus*, but differing in having imperfectly three-celled, instead of five or ten-celled capsules. All the species are easily cultivated in rich loamy soil, and they are readily propagated by cuttings, which root freely under a hand-glass.

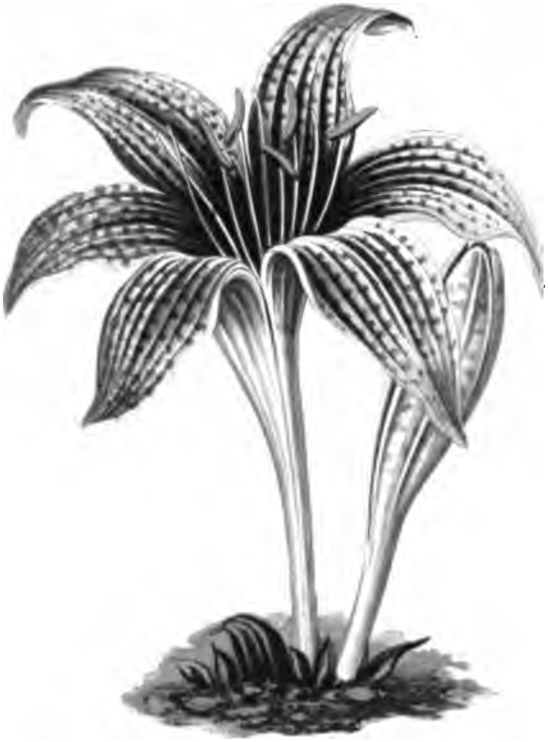
The generic name (from *helios*, the sun, and *anthemon*, a flower) is given in allusion to the bright golden flowers of most of the species, or, as some say, because the flowers open with the rising of the sun, and the petals fall off with the setting of the sun. The flowers only open during sunshine, and are very fugitive.

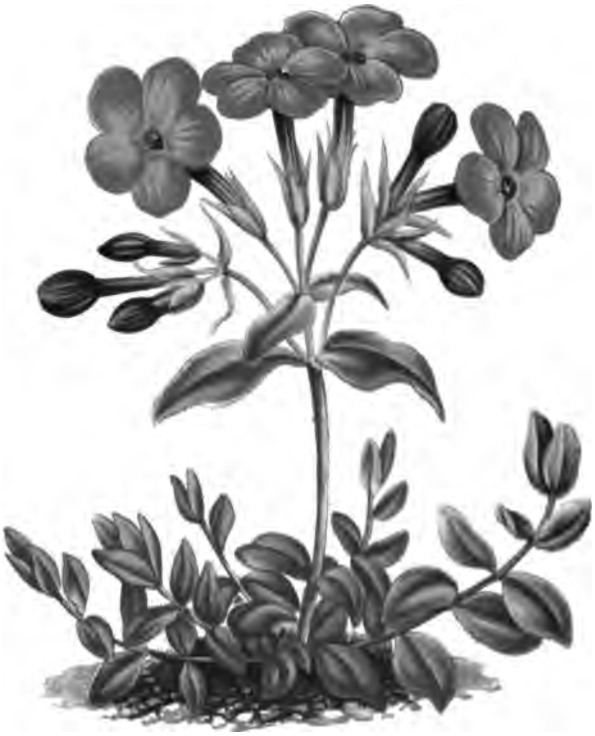
H. ròseum is a half-shrubby decumbent plant, spreading in all directions, and very suitable for rockwork, or for growing in pots. It produces an abundance of flowers nearly all the summer. It is a native of the South of Europe, whence it was introduced in 1815. A mixture of light sandy loam and peat will suit it very well; and cuttings planted under a hand-glass from July to September will strike root readily. In some parts of this country this plant may require protection during severe winters.

The common Rock-roses and Sun-roses of our gardens are the most striking plants in the order *Cistàceæ*. They are found in most parts of the world, growing in dry, elevated, rocky places. They are all very ornamental, and very suitable for planting on rockwork. The flowers of all the species of *Cístus* (Rock-rose) and *Heliánthemum* (Sun-rose) have five petals, which are crumpled up in the bud like those of the poppy. The calyx generally consists of five sepals, two of which are larger and of a paler green than the others, and grow a little below them: in the Gum-Cistus the two outer sepals are wanting. The petals fall very soon after the flower opens, but the calyx remains on till the seed is ripe. There are a great many short stamens, forming a tuft in the centre of the flower, and surrounding the pistil, which has a round flat-headed stigma, a rather long style, and a five-celled ovary.

The gum called ladanum, or labdanum, which is used in medicine, is the produce of several kinds of Cistus: it possesses tonic and stomachic properties, and when burnt it exhales a fragrant perfume.

The stamens of the Common Rock-rose (*Heliánthemum vulgàre*), which is a British plant, are so irritable that in sunny weather they will move on being touched.





COLCHICUM VARIEGATUM.

PHLOX CRASSIFOLIA.

XXXIV

COLCHICUM VARIEGATUM.

PLATE XXXIV.—FIG. I.

Cólchicum variegàtum, LINNÆUS. The chequer-flowered Meadow Saffron.
Natural Order—MELANTHACEÆ.* The Melanthium Family.

THIS species is readily distinguished from the Common Meadow Saffron (*Cólchicum autumnàle*) by its flowers, which are more open and curiously variegated with dark purple blotches. It is a native of Greece, and was introduced before 1629. It will thrive in any good garden soil, producing an abundance of flowers in the autumn. For planting on the low ledges of rockwork, or in the flower-border, it will be found most suitable, as well as for an edging to beds. It is increased by separating the bulbs.

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* The order *Melanthàceæ* will be found described in vol. i., p. 52; and for a description of the genus *Cólchicum*, see p. 59.

PHLOX CRASSIFOLIA.

PLATE XXXIV.—FIG. II.

Phlox crassifolia, LODDIGES. The thick-leaved Phlox.
Natural Order—POLEMONIACEÆ.* The Greek Valerian Family.

THIS very pretty dwarf Phlox, which was introduced from North America in 1825, is considered by some to be a variety of *P. stolonifera*, with flowers of a larger size and of a much richer tint, and with the leaves broader and of a deeper green. It is perfectly hardy, and, as it has a trailing habit, it is very suitable for the front of a flower-border, or for planting on rockwork. It should be grown in a mixture of sandy peat and loam; and it may be readily increased by division.

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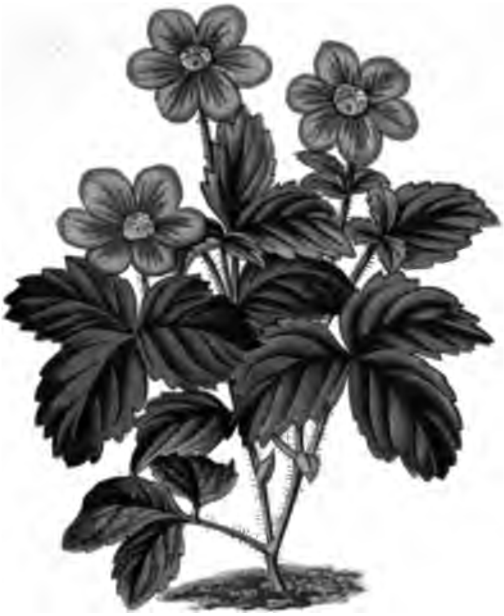
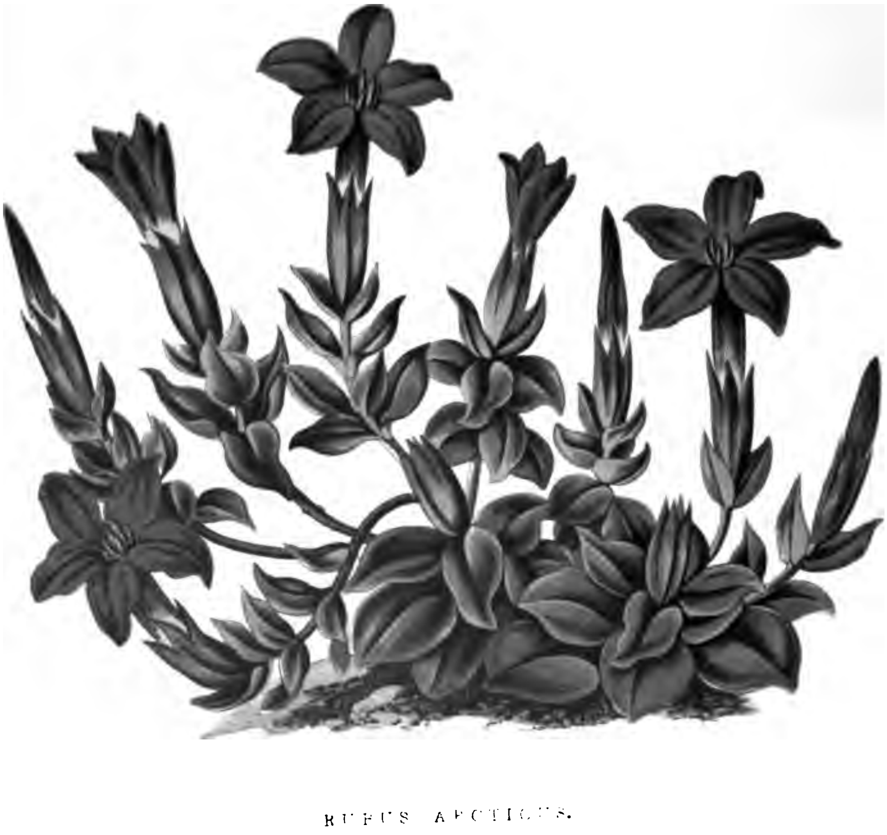
* The order *Polemoniàceæ* has been already described in p. 17 of this volume.





RUBUS ARCTICUS.

GENTIANA VERNA.

XXXV

RUBUS ARCTICUS.

PLATE XXXV.—FIG. I.

Rùbus árcticus, SMITH. The Arctic, or dwarf crimson Bramble.
Natural Order—ROSACEÆ.* The Rose Family.

THE species forming the genus *Rùbus* are mostly shrubs (generally with trailing prickly stems), only very few being herbaceous plants. The flowers, which are mostly white or pink, are, in most of the species, produced in terminal racemes, and the fruit is edible. Several of the British species are well known, as the Blackberry (*R. fruticòsus*), the Raspberry (*R. idæ̀us*), the Dewberry (*R. cæ̀sius*), and the Cloudberry (*R. Chamæmòrus*).

The generic name is from *rub*, red in Celtic, in reference to the colour of the fruit in some of the species.

R. árcticus is a very beautiful little species† with very slender erect stems, from four to six inches high, each bearing three or four leaves, and seldom more than one deep rose-coloured flower, which appears in June. The fruit is of a pale purplish red, sweet, and well flavoured. The soil for this little plant should be a mixture of peat and loam; and it may be increased by suckers.

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* For a description of the order *Rosàceæ*, see vol. i., p. 71.

† Mr. Bentham states that this species "has been inserted in our Floras as having been found in the Scotch Islands, but this appears to be a mistake. At any rate, all recent search for it there has been in vain."

GENTIANA VERNA.

PLATE XXXV.—FIG. II.

Gentiàna vèrna, WILLDENOW. The Spring Gentian.
Natural Order—GENTIANACEÆ.* The Gentian Family.

THIS very beautiful little Gentian is one of our rare British plants, being confined to a few localities in the North of England, Teesdale, in the county of Durham, being one. It has also been found in the West of Ireland. In mountain pastures in central and southern Europe to the Caucasus and the Altai, it is one of the most common species, but it scarcely extends into Northern Germany.

It grows from one to three inches high, forming dense tufts, and producing a profusion of its brilliant blue flowers in the spring. It should be planted in deep rich fibrous loam, mixed with cocoa-nut fibre and fragments of limestone, on sunny banks or the ledges of rock-work. It will succeed very well in pots or pans, provided good drainage is secured, and the soil (which should be a mixture of good rich loam and broken limestone) is kept moist; and also in the flower border in loam mixed with gravel. No collection should be without this little gem: in dividing the tufts, to increase it, great care should be taken. An abundant supply of water is necessary during the growing season.

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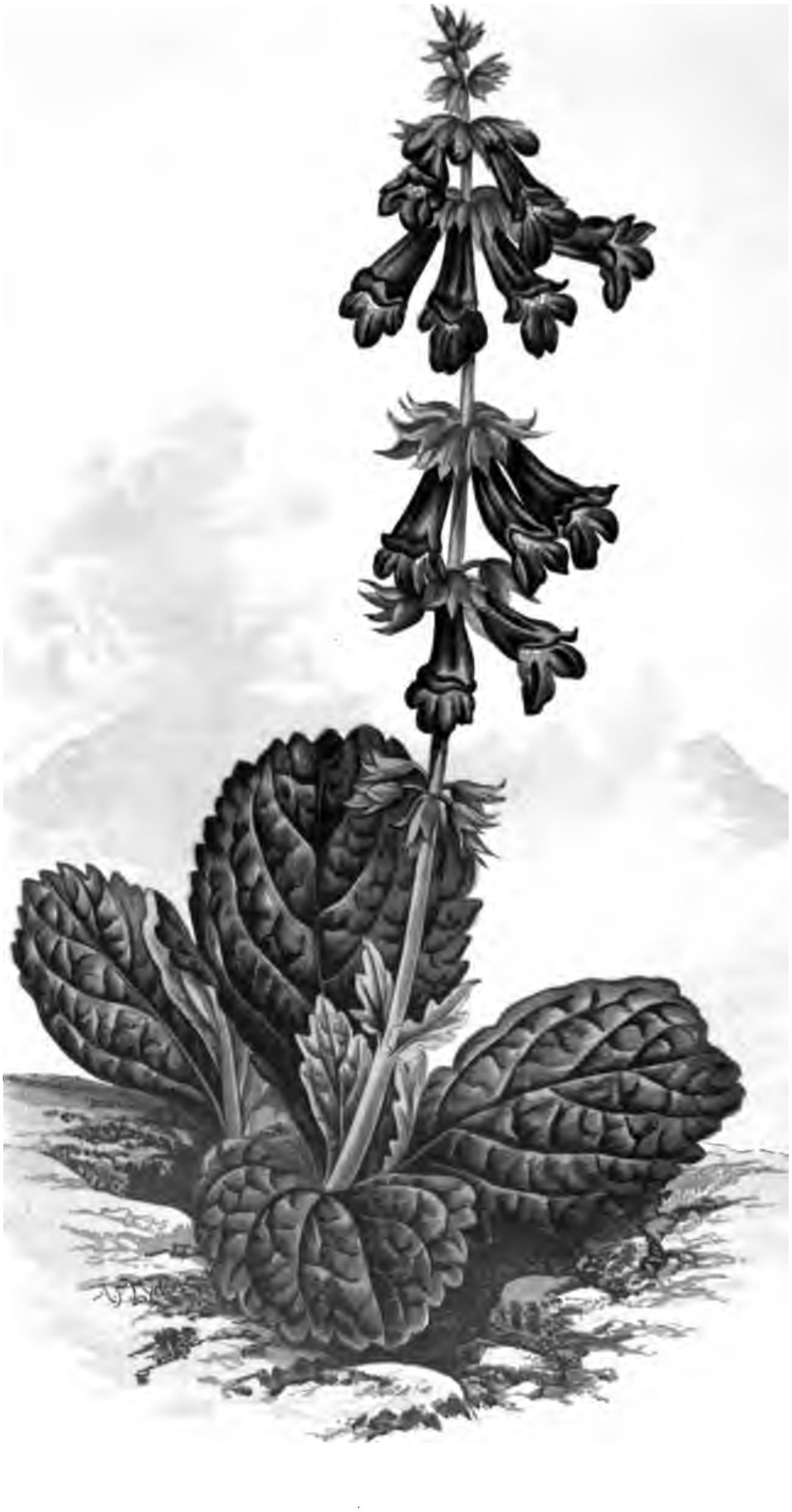
* The order *Gentianàceæ* will be found described in vol. i., p. 50.



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XXXVI

HORMINUM PYRENAICUM.

PLATE XXXVI.

Hormìnum pyrenàicum, PERSOON. The Pyrenean Horminum.
Natural Order—LABIATÆ.* The Labiate Family.

Hormìnum is a small genus of herbaceous perennials with ornamental flowers. Only two species are known.

The generic name is from *hormao*, to excite, in allusion to the stimulating qualities possessed by the plants.

H. pyrenàicum grows in tufts, and has numerous egg-shaped root-leaves, simple almost leafless stems, and purplish blue flowers, arranged in whorls of six (all turned the same way), and appearing in July and August. It is found in moist pastures at high elevations in the Pyrenees. It will be found most suitable for planting on rockwork, in situations where it will have a good supply of moisture: the soil should be a sandy loam. It may be increased by dividing the tufts in the spring.

My thanks are due to Mr. Niven for kindly forwarding the plant for illustration.

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* The order *Labiàtæ* is described in vol. i., p. 64.

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XXXVI

SOLDANELLA MINIMA.

PLATE XXXVII.—FIG. I.

Soldanélla mínima, HOPPE. The Least Soldanella.
Natural Order—PRIMULACEÆ.* The Primrose Family.

OF the species of Soldanélla,† this is the smallest in every respect, growing only an inch or two high, and producing its lovely little bell-shaped dark lilac fringed flowers (only one on each stem) in April and May. It is a native of the Alps of Switzerland, the Carinthian Alps, and the Carpathian Mountains, and it was introduced in 1823. The soil most suitable for it is a mixture of peat, loam, and grit; and it will succeed best on well-drained ledges of rockwork. It will also thrive very well in a small pot, if good drainage is secured. It may be increased by division.

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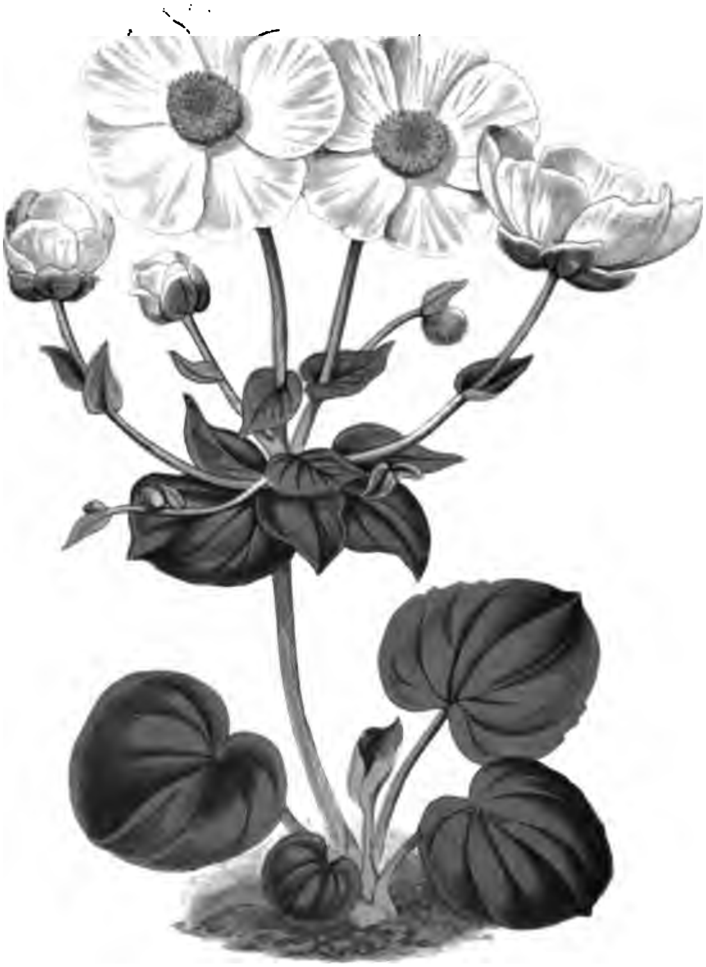
* A description of the order *Primulàceæ* will be found in vol. i., p. 14; and of the genus *Soldanélla* in p. 88.

† The writer of a very entertaining article (*A Bye-Day in the Alps*) in *The Cornhill Magazine* for June, 1874, when describing the region in which one finds the essence of Alpine scenery, says: "There, in the early months, you walk knee-deep in flowers, every one of which is a bit of embodied poetry. When the snow has just departed, the fragile cup of the Soldanella makes a purple carpeting amidst turf which seems to have been scorched by the frost. Its delicate beauty suggests that it is made rather of air than of earthly elements, and yet it ventures where no plant of grosser frame dares to rival it. To gather it seems to be sacrilegious; and you are forced to justify yourself for cutting short its career by the general argument of oppressors, namely, that if you don't commit the crime, some less appreciative sinner, probably a coarse-minded cow, will commit it instead. And the Soldanella is only one amongst a throng of beauties to which justice could only be done by the author of the *Midsummer Night's Dream*."

in allusion to the variety and brilliancy of the colours of the flowers. According to Plutarch the word *Iris,* signified, in the ancient Egyptian tongue, *eye:* the eye of heaven.

I. reticulàta is a most beautiful dwarf species, with bulbous roots, growing from four to six inches high, a native of Georgia, Asia Minor, Kurdistan, Syria, and Persia, and invaluable as a spring flower, as it is easily cultivated, and the deep rich violet flowers (which have the delicious fragrance of violets) appear in March, and produce a most striking effect, especially when seen in masses under the influence of bright sunshine. It is not sufficiently hardy for all parts of this country, and will not succeed very well in cold wet situations. Sheltered, warm, sunny situations should therefore be chosen for it, and, like all the bulbous-rooted Irises, it thrives best in a mixture of good rich sandy loam and peat. It is admirably adapted for being grown in pots or pans for placing in the greenhouse or conservatory in March. It may be increased by separating the bulbs after the leaves have withered.



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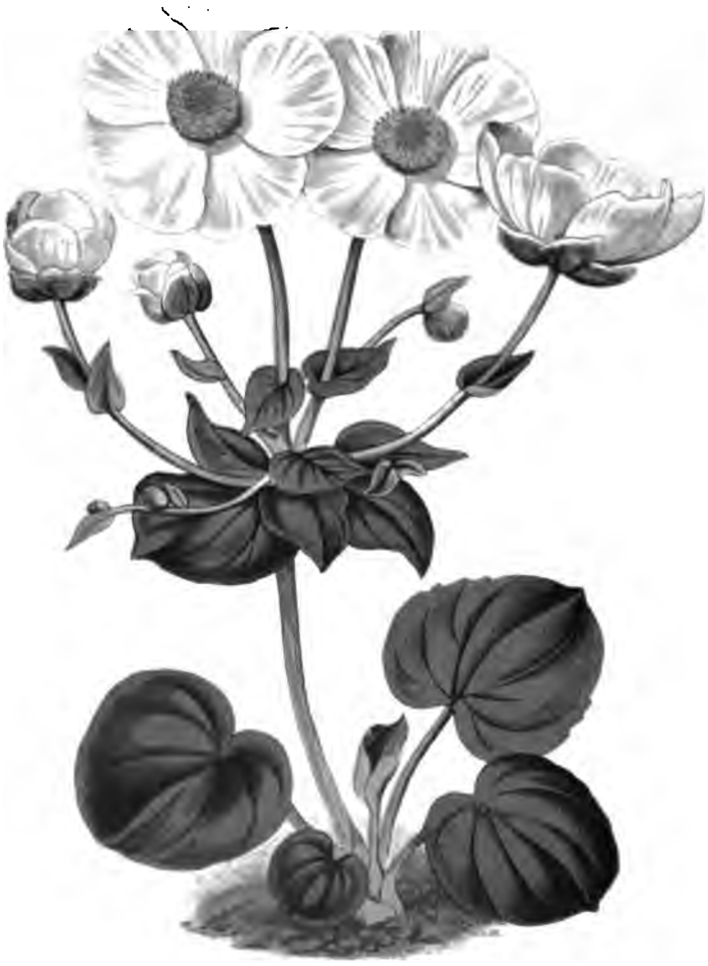
RANUNCULUS PARNASSIFOLIUS.
XXXVIII



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RANUNCULUS PARNASSIFOLIUS.

XXXVIII

ASPERULA ARCADIENSIS.

PLATE XXXVIII.—FIG. I.

Aspérula arcadiénsis, SIMS. The Arcadian Woodruff.
Natural Order—RUBIACEÆ.* The Madder Family.

Aspérula differs only very slightly from *Gàlium*, namely, in the shape of the corolla, which tapers at the base into a tube. Many of the species are ornamental, and very suitable for planting on rockwork. Two are British plants, namely, *A. odoràta* (the Sweet Woodruff), the scent of which is quite pleasant, and *A. cynánchica* (the Squinancy Wort), which is regarded as a specific in cases of squinancy (quinsy). All the species will thrive under the shade of trees in moist soil, except *A. cynánchica* (which is found in dry pastures, on warm banks, and in waste, stony, and sandy places), and *A. arvénsis*. The roots of *A. tinctòria* are used in Gothland for dyeing wool a red colour.

Aspérula is from *asper*, rough, in allusion to the leaves. The English name of Woodruff, or Woodroof, is supposed to be a corruption of the word *woodrowel*, from the whorls of leaves resembling certain kinds of rowels of spurs.

A. arcadiénsis is a pretty little decumbent plant with angular branched stems, oblong hairy leaves (in whorls of six), and rose-coloured flowers, produced in terminal and axillary clusters. It was first discovered on Mount Tyria in Arcadia, whence seeds were sent by Mr. Hawkins to Sir Joseph Banks, by whom plants were first raised in this country in 1819 (the year before his death). The plant will thrive in any good garden soil, and it may be increased by division.

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* The order *Rubiàceæ* will be found described in p. 2 of this volume.

RANUNCULUS PARNASSIFOLIUS.

PLATE XXXVIII.—FIG. II.

Ranúnculus parnassifòlius, WILLDENOW. The Parnassia-leaved Crowfoot.
Natural Order—RANUNCULACEÆ.* The Crowfoot Family.

Ranúnculus (the type of the order *Ranunculàceæ*, the first in the Natural System of the late Professor de Candolle) is a large genus of herbaceous plants, most of which have tuberous roots, though some have bulbous roots. Many of the species are some of our commonest British plants, such as *R. àcris*, *R. rèpens*, and *R. bulbòsus*, the bright yellow flowers of which (known by the names of Buttercups, Goldencups, and Kingcups) make our meadows and pastures look gay in summer. The beautiful double-flowered Ranunculuses of our gardens are varieties of *R. asiáticus*, a Levant species. There are also double-flowered varieties of several other species, especially of our common yellow Buttercups and of the white-flowered *R. aconitifòlius* (a Continental species), which are known under the names of Yellow Bachelor's Buttons and White Bachelor's Buttons.

All the species of Ranúnculus are poisonous from their acridity, but some are more so than others.

The name of *Ranúnculus* is said to be from *rana*, a frog, because the species are generally found in moist places. The English name of Crowfoot is from the shape of the leaves, which are deeply cut and resemble the foot of a bird.

R. parnassifòlius is a very beautiful dwarf species with large white flowers, and leathery roundish leaves, which somewhat resemble those of a Cyclamen. The stems are pink, and the calyx and sometimes even the corolla are tinted with the same colour. It is a native of the Alps and the Pyrenees, and it was introduced in 1769. It is found growing in the fissures of rocks near the boundary of perpetual snow. A mixture of loam and peat appears to suit it best, and it may be increased by division and by seed.

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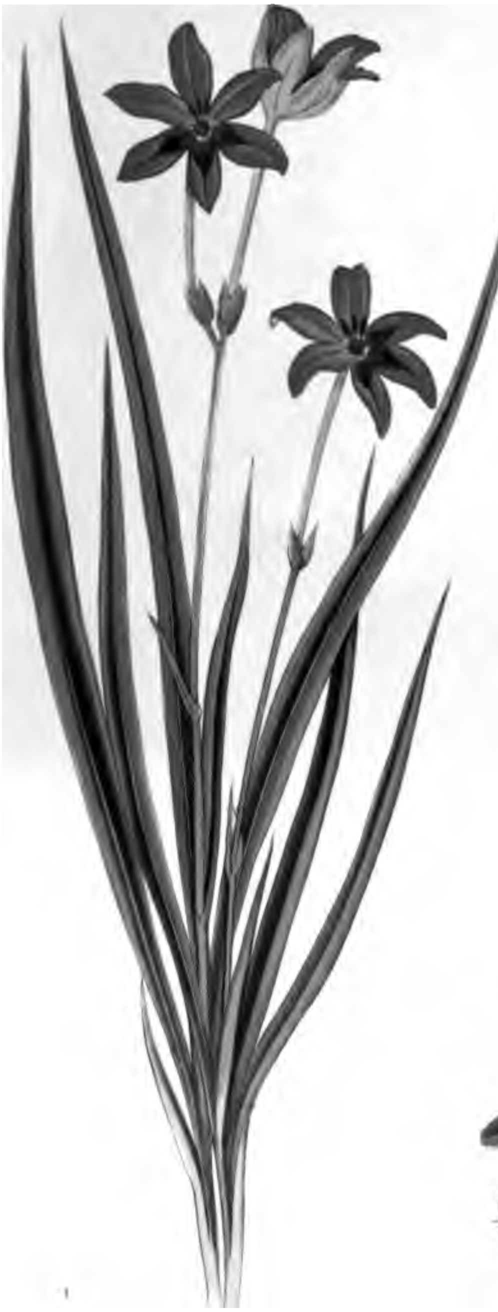
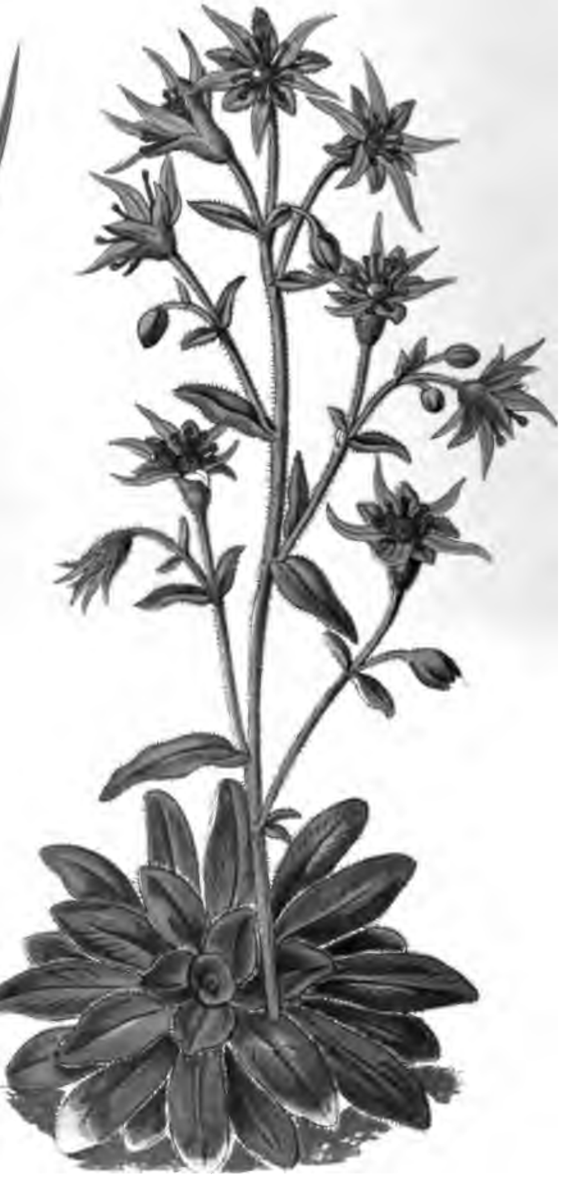
* The order *Ranunculàceæ* has been described in vol. i., p. 6.

There is a variety with smaller flowers and acute leaves.



ANOMATHECA CRUENTA.



SAXIFRAGA MUTATA.

XXXIX

ANOMATHECA CRUENTA.

PLATE XXXIX.—FIG. I.

Anomathèca cruénta, LINDLEY. The blood-stained Anomatheca.
Natural Order—IRIDACEÆ.[*] The Iris Family.

Anomathèca is a small genus of pretty South African bulbous plants. There are only two species, namely, *A. júncea* and *A. cruénta,* and both are very much alike. They succeed very well in a mixture of sandy peat and loam, and they are easily increased by separating the bulbs, or by seeds.

The generic name is from *anomos,* singular, and *theca,* a capsule, in allusion to the frosted appearance of the seed-vessel.

A. cruénta, which was introduced from the Cape of Good Hope in 1830, differs from *A. júncea* chiefly in the tube of the flower being longer, in the greater irregularity of the limb, in the deeper crimson colour, and in the form of the spots at the base of the three lower segments. The leaves are also much larger and more perfect than those of *A. júncea,* being entirely without the curling up and the deep indentation at the side. The plant grows from six to twelve inches high, and flowers freely (either in the greenhouse or in the open air) from April till the end of August. In the open air sunny spots should be chosen for it, either on rockwork or in the flower-border, and the bulbs should be planted about four inches deep. If the bulbs are left in the ground during the winter, they should have a covering of sawdust or cocoa-nut fibre. When grown in pots, the bulbs should have all the old soil shaken from them, and the offsets should be taken off, before repotting them in January or February. The species may be increased either by separating the bulbs, or by seed, which ripens abundantly.

My thanks are due to Mr. Niven for obligingly forwarding the plant from which the illustration is taken.

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[*] The order *Iridàceæ* will be found described in vol. i., p. 69.

SAXIFRAGA MUTATA.

PLATE XXXIX.—FIG. II.

Saxifraga mutata, WILLDENOW. The Saffron-coloured Saxifrage.
Natural Order—SAXIFRAGACEÆ.* The Saxifrage Family.

THIS Saxifrage is a native of the Alps of Switzerland and Italy, and was introduced in 1779. The whole plant is covered with viscid hairs. The much-branched stem grows about a foot high. The flowers have long, narrow, pointed petals, of a saffron colour, of a deeper tint when they first open, and gradually changing to a pale yellow. The beauty of the flowers is increased by a glandular substance in the centre of each, which, when the flowers first expand, is of a bright purple colour. The plant is very suitable for planting on rockwork, but care should be taken that it does not get too much wet. It may be increased by division and by seed.

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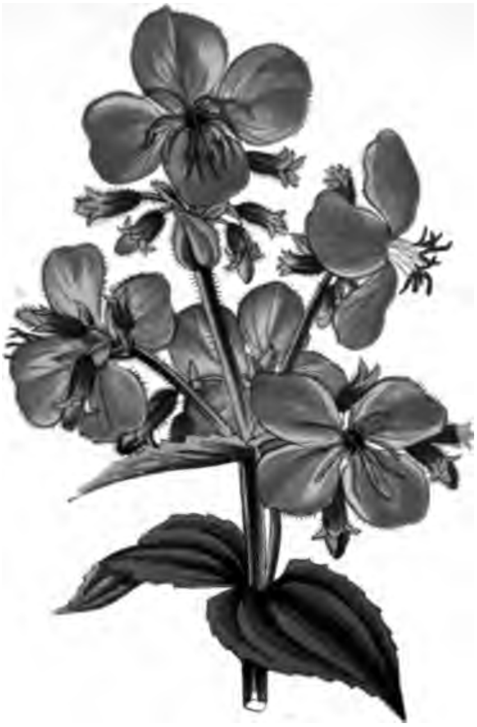
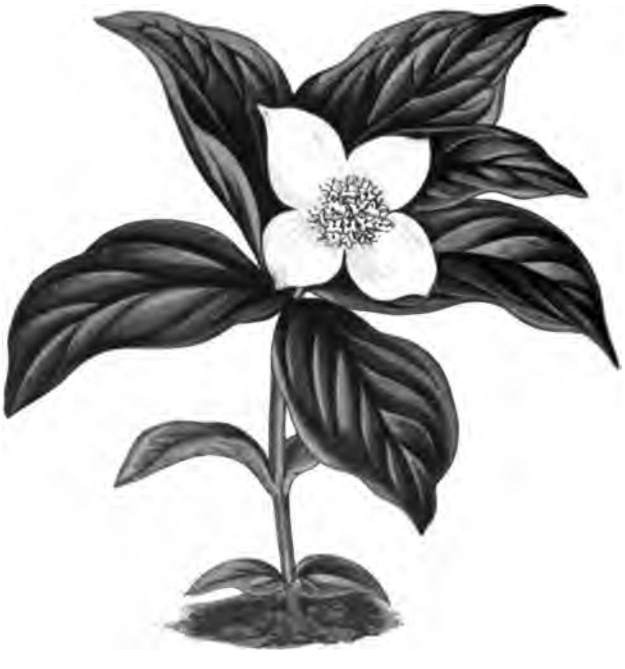
* The order *Saxifragaceæ* has been already described in vol. i., p. 40.





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CORNUS CANADENSIS

XL

RHEXIA VIRGINICA.

PLATE XL.—FIG. I.

Rhéxia virgínica, WILLDENOW. The Virginian Rhexia, or Meadow Beauty.
Natural Order—MELASTOMACEÆ. The Melastoma Family.

MOST of the species forming the genus *Rhéxia* are low-growing North American plants, with bristle-edged leaves, and cymes of large showy flowers. The fruit contains numerous seeds of a coiled pyramidal form, like a small shell.

The generic name is from *rhexis*, a rupture: the plants possess astringent qualities.

Deer-grass and Meadow Beauty are popular names by which the plants are known.

R. virgínica is a hardy perennial, a native of Virginia, Carolina, and Maryland, growing most luxuriantly in sandy bogs, and though it was first introduced in 1759, it is still somewhat rare, as it will only succeed in very moist boggy soil. The conditions under which it grows naturally must, therefore, be secured for it by those who wish to have it in a flourishing state. It is a very beautiful plant, and deserving of any trouble that may be bestowed on it. It grows from six to nine inches high, with numerous quadrangular winged stems, sparingly clothed with lance-shaped sharply-toothed leaves. The rosy-purple flowers appear from June till August. The plant is increased by dividing it as soon as it begins to grow in the spring.

Rhéxia belongs to the order *Melastomàceæ*, which consists of tropical trees, shrubs, or herbaceous plants, with large handsome (generally purple or white) flowers and leaves, the latter being marked with two or more deep lines running parallel to the midrib. They are nearly related to *Myrtàceæ* (the Myrtle Family), from which they differ in the want of essential oil and of the dot-like reservoirs of the leaves which contain it. A slight degree of astringency is the prevailing character of the plants of the order, which, though a large one, is entirely destitute of any unwholesome species. The succulent fruit of many is eatable; that of some dyes the mouth black, whence the name of *Melástoma* (from *melas*, black, and *stoma*, mouth), which gives the name to the order. The fruit of *Lasiándra argéntea* and some others is used in Brazil for dyeing black. The juice of *Tocòca guianénsis* is used in Demerara as ink. Several of the species of *Lasiándra, Melástoma*, and *Pleròma* have very striking flowers of the richest purple; while *Medinílla magnífica* has large long panicles of delicate pink flowers.

CORNUS CANADENSIS.

PLATE XL.—FIG. II.

Córnus canadénsis, Willdenow. The Canadian Cornel.
Natural Order—Cornaceæ. The Cornel Family.

Most of the species of *Córnus* are trees or shrubs, only two being herbaceous plants. Two are British, viz. *C. sanguínea* (the Common Cornel or Dogwood), a well-known shrub, and *C. suécica* (the Dwarf Cornel), which is one of the herbaceous species. *C. máscula* (the Cornelian Cherry) is the Akenia of the Greeks, and the Kizziljiek or Red-wood of the Turks, and from its wood the Turks obtain the dye for their red fez. Several of the species are used in America as substitutes for Peruvian bark.

Córnus is from *cornu*, a horn, in allusion to the wood being considered to be as hard and as durable as horn. The wood of nearly all the species makes the very best charcoal.

C. canadénsis, which was introduced from America in 1774, is readily distinguished from the British herbaceous species (*C. suécica*) by all the leaves being produced in a whorl at the top of each stem. The flowers appear throughout the summer, and during part of the autumn. The plant grows about six inches high, and is most suitable for planting on rockwork. The soil should be moist sandy peat, and a cool and somewhat shaded situation should be chosen for it. Easily increased by dividing the creeping roots.

Córnus was formerly included in the order *Caprifoliàceæ** (the Honeysuckle Family), but it is now made the type of a new order (*Cornàceæ*), which is intermediate between *Araliàceæ* (the Ivy Family) and *Caprifòliaceæ*, and consists of eight or nine genera of trees or shrubs, natives of the temperate parts of Europe, Asia, and America; one being the well-known *Aúcuba* and another the *Benthàmia*.

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* Already described in vol. i., p. 11.

[illegible]

PRIMULA NIVALIS.

XII.

DIANTHUS GLACIALIS.

PLATE XLI.—FIG. I.

Diánthus glaciàlis, HÆNKE. The Glacial Pink.
Natural Order—CARYOPHYLLACEÆ.* The Pink and Carnation Family.

EVERY one who saw this charming little Pink when it was exhibited by Messrs. Backhouse and Son at the Meeting of the Royal Horticultural Society on the 15th. of April, 1874, must have been struck with its great beauty; and those who had not an opportunity of seeing it on that occasion, will be able to form some idea of what a little gem it is from the following description (which is extracted from the *Gardeners' Chronicle* of the 25th. of April, 1874):

"It is difficult to overpraise the Glacial Pink......To see a quantity of this plant with the flowers fully expanded is a rare and brilliant sight. It forms complete hillocks, composed of the brightest rose-coloured flowers from an inch to an inch and a quarter across, and the whole plant is not more than two or three inches high. The flowers are produced in such abundance, that as many as from twelve to fifteen may be counted on plants not more than an inch in diameter. It flowers earlier than most other Pinks; and is easily distinguished from *D. alpìnus* and *D. negléctus* by its more cæspitose and compact habit, not forming running shoots under the surface of the soil, as those two species do. The foliage is of a much darker green than, and not so spiny as, that of *D. negléctus*. The plant is of very easy culture, thriving well in rich garden loam, planted on any well-drained spot either in the rock garden or the ordinary flower border. If grown in pots, it proves a very useful plant for forcing, by placing it in a frame near the glass in early spring, as it will by this treatment produce its flowers much earlier."

To Messrs. Backhouse and Son, I am indebted for an opportunity of figuring this plant.

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* The order *Caryophyllàceæ* will be found described in vol. i., p. 1.

PRIMULA NIVALIS.

PLATE XLI.—FIG. II.

Prímula nivàlis. The Snowy Primrose.
Natural Order—PRIMULACEÆ.* The Primrose Family.

THIS resembles *P. ciliàta* in growing in dense clusters, but the flowers are smaller and of a pure white. It is very suitable either for planting on rockwork or for growing in small pots. A specimen in a pot was exhibited at the Meeting of the Royal Horticultural Society at South Kensington on the 15th. of April, 1874.

I have to express my acknowledgments to Messrs. Backhouse and Son for kindly forwarding the plant for illustration.

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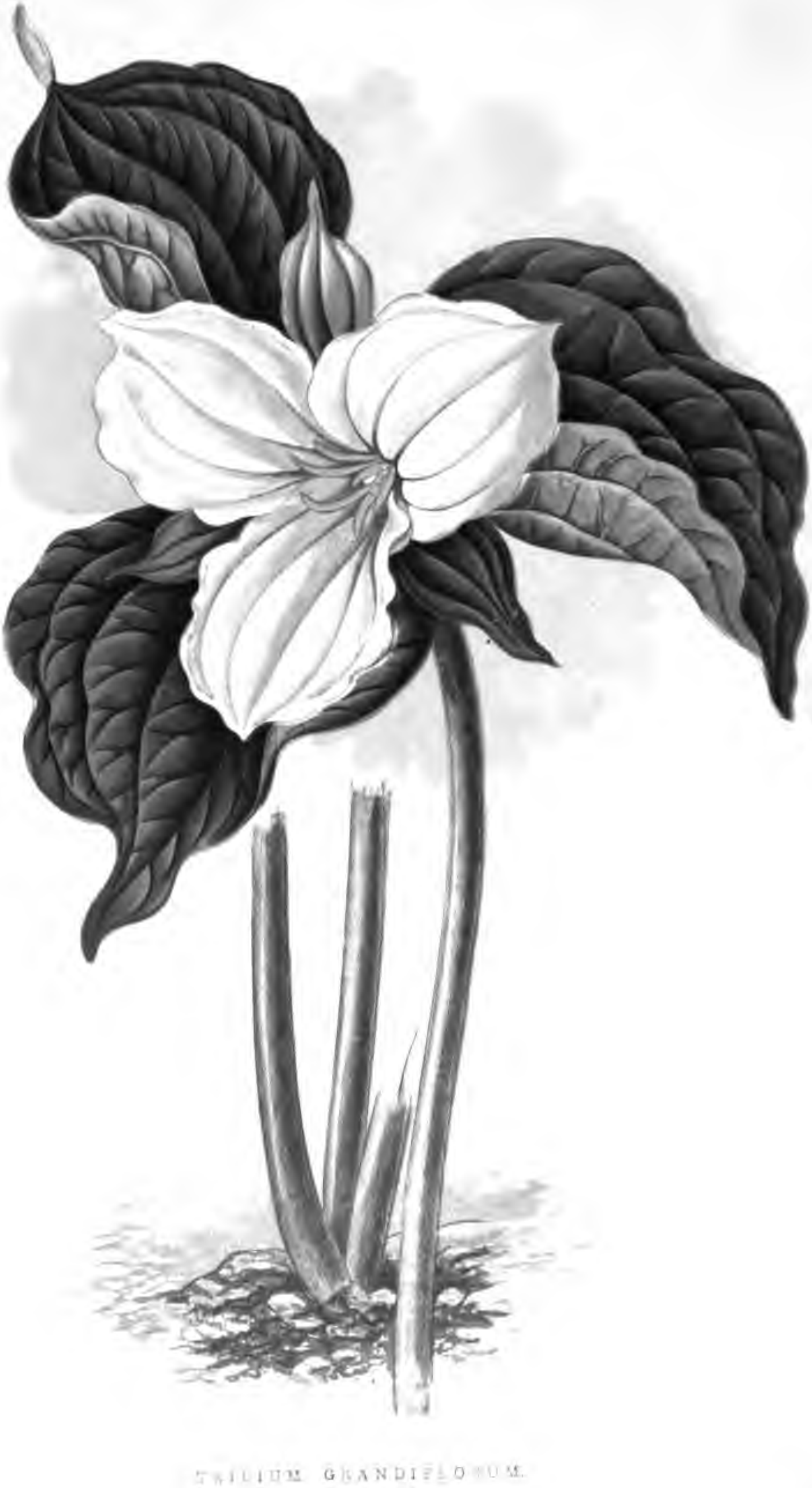
* The character of the order *Primulàceæ* will be found in vol. i., p. 14.



TRILLIUM GRANDIFLORUM.

XLII

TRILLIUM GRANDIFLORUM.

PLATE XLII.

Tríllium grandiflòrum, PURSH. The large-flowered Trillium.
Natural Order—SMILACEÆ. The Sarsaparilla Family.

THE genus *Tríllium* consists of curious North American tuberous-rooted plants, which are somewhat difficult to keep. They are suitable either for the flower-border or for rockwork, but they require shade and moisture, and do best in a deep bed of peat or in a mixture of peat and loam. They are increased (rather slowly) by dividing the roots.

The name of *Tríllium* is from *trilix*, triple: the calyx has three sepals, the corolla three petals, the pistil three styles, and the stem three leaves.

T. grandiflòrum is a very beautiful species, growing from six to eighteen inches high, and producing its slightly pendulous pure white fragrant flowers singly (one on each stem) in April, May, and June. It is a native of mountains and rocky banks of rivers in Virginia and Carolina, and it was introduced in 1799.

To Messrs. Backhouse and Son, of York, my thanks are due for the plant from which the figure in our plate is taken.

The order *Smilàceæ*, to which *Tríllium* belongs, consists of monocotyledonous herbaceous plants or undershrubs, some having fleshy tubers. Several are interesting, especially the Lily of the Valley (a species of *Convallària*), the fragrance of which is most grateful; *Smìlax*, which is remarkable for its twining stems and its leaves (which resemble those of dicotyledonous plants), and the roots of several species of which afford the Sarsaparilla of the shops; and the Butcher's Broom (*Rúscus*). In the genus *Smìlax*, the male and female flowers are on different plants; and in *Rúscus*, the flowers spring from the middle of the leaves.

The perianth is in six equal segments, and there are six stame
The ovary is three-celled, with the cells one or many-seeded, and t
fruit is a globose berry. The seeds, when ripe, have a brown me
branous skin. The principal other genera, besides those alrea
mentioned, are *Pàris, Smilacìna, Polygónatum,* and *Ripógonum.*

VINCA HERBACEA.

PLATE XLIII.—FIG. I.

Vínca herbàcea, WILLDENOW. The Herbaceous Periwinkle.
Natural Order—APOCYNACEÆ. The Dog's-bane Family.

Vínca is a small genus of rather woody herbaceous plants with opposite entire shining leaves, and blue, pink, or white flowers, which are produced singly on axillary peduncles. They grow naturally in shady places. Two are British species, viz. *V. màjor* (the larger Periwinkle) and *V. mìnor* (the lesser Periwinkle), both of which are commonly found in our gardens, being valued for their early and long-continued flowering, as well as for their being evergreens well adapted for covering naked ground in shaded situations.

The generic name is from *vinculum*, a band, in allusion to the twining shoots being so suitable for making bands. The origin of the English name of Periwinkle, however, appears to be quite unknown. The Anglo-Saxons called it *peruince;* the French *pervenche.*

V. herbàcea is a native of Hungary, where it grows in open situations on chalky or sandy hills, dying down to the ground every winter, and very distinct from either of the two British species. It has creeping stems about nine inches in length, and is well adapted for planting on rockwork. It succeeds best in good loamy (rather dry) soil in sunny situations, producing its purplish blue flowers in spring and early summer. It is increased by division.

The plants composing the order *Apocynàceæ*, to which *Vínca* belongs, are mostly very showy trees or shrubs (some being climbers), usually with acrid milky juice, readily known by the twisted direction of the segments of the corolla, which have been compared to the rays of a St. Catharine's wheel. Most of the species are tropical, a few representatives only (such as *Vínca* and *Apócynum*) being found in northern countries.

The corolla is generally salver-shaped, as in *Vínca,* or funnel-shaped, as in *Tabernæmontàna* and *Allamánda,* or divided into equal segments, as in *Nèrium Oleánder* (the Oleander). The flowers are often bearded in the throat, and furnished with hypogynous scales. The stamens are enclosed in the flower, the anthers lying close together. The seed is contained in two follicles, which are slender, with the seeds disposed in two rows.

Although some of the plants of the order are used medicinally, and others have edible fruit, many of them are poisonous, two of the most virulent being the genera *Cérbera* and *Tanghínia.* Even the beautiful Oleander is a formidable poison, for a few years ago a child died from having eaten, one morning, a quantity of the flowers of this plant. In addition to the genera already mentioned, the order also contains the three following, viz. *Dipladènia, Echìtes,* and *Mandevílla,* which are plants of great beauty.

ROMANZOVIA SITCHENSIS.

PLATE XLIII.—FIG. II.

Romanzòvia sitchénsis, CHAMISSO. The Sitka Romanzovia.
Natural Order—HYDROPHYLLACEÆ. The Hydrophyllum Family.

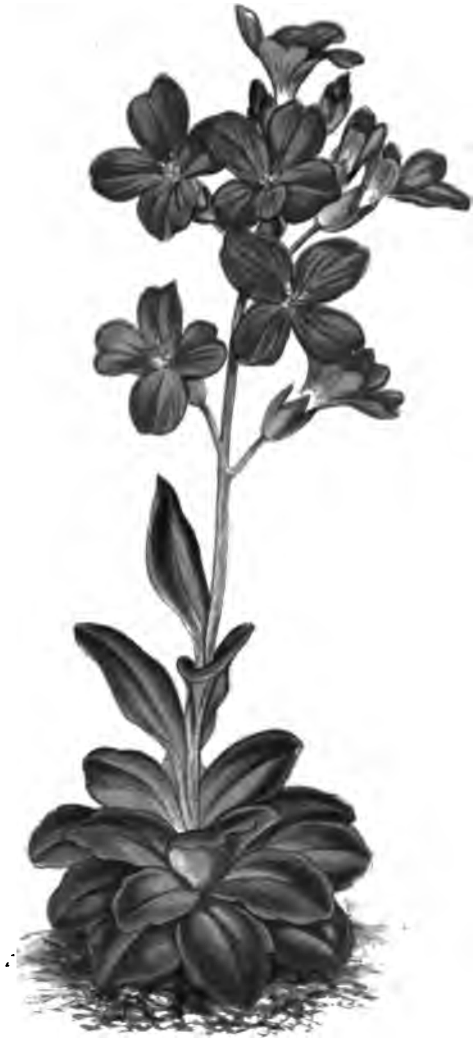
Romanzòvia is a small genus of low-growing, many-stemmed, pilose herbaceous plants (natives of Arctic America), with heart-shaped root-leaves on long petioles, small alternate cauline leaves, and terminal one-sided racemes of flowers. The calyx has five sepals and the corolla five petals: there are five stamens, which are included in the corolla; and the style (which differs from that of other plants of the order) is simple and furnished with a capitate stigma.

The genus was named in honour of Count Romanzoff, Director of the Russian Admiralty, at whose expense the voyage of Kotzebue round the world was undertaken.

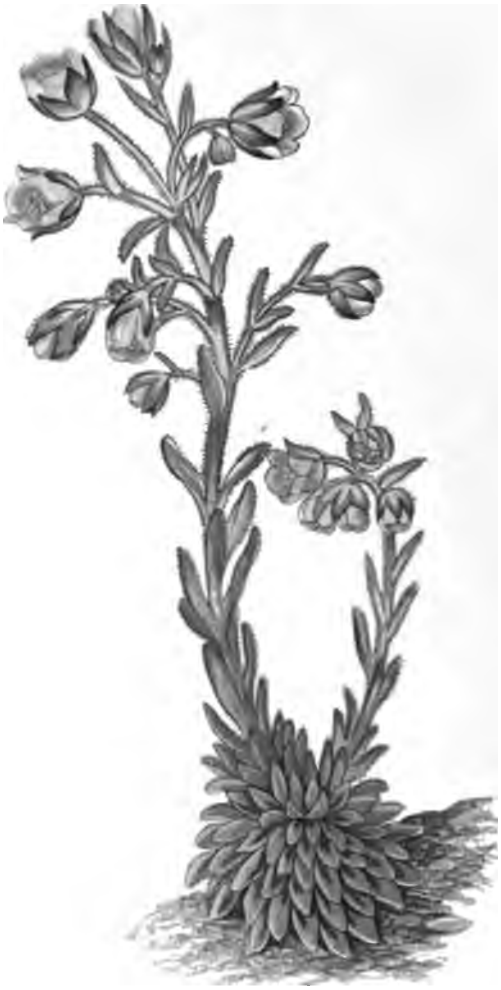
R. sitchénsis is described by Dr. Hooker in the *Botanical Magazine* for July, 1874, as "a weak, green, perennial-rooted, straggling, or suberect herb, four to eight inches high or long, more or less covered with scattered curled short hairs." Dr. Hooker also gives the following particulars respecting the discovery of this little plant: "This very rare and interesting little plant, with the habit of a Saxifrage of the *granulàta* group, is closely allied to the majestic *Wigándia* of our subtropical gardens, though so dissimilar in stature, habit, and general characters, and in coming from so different a climate and country. It is a native of a few distant spots over a very wide range of country in North-western America, and has been gathered by very few collectors. First, by the late venerable Menzies, the Naturalist to Vancouver's Voyage (and the introducer of *Araucària imbricàta*), in May, 1793, who discovered a small slender variety of it on hanging rocks at Trinidad, in California, lat. 41° 10′ N.; next by Chamisso at Sitka in the then Russian, but now American territory of Alaschka, fully one thousand miles north of Trinidad, and by wh it was first described; more lately it was gathered abundantly Dr. Lyall on the Cascade Mountains, in lat. 69° N., in the bed the Sallse river, and a large-flowered variety (Regel's *R. grandiflò* on the same mountains, at an elevation of seven thousand fe Lastly we have specimens collected in South California (probably the mountains), in lat. 35°. by Dr. Bigelow, surgeon to Lieutena Whipple's Exploration for a railway route across America in 1853- this is fully fourteen hundred miles south of Sitka." Dr. Hook further states that *R. sitchénsis* "is a rock-plant, easy of cultivatio and was introduced into Europe by Messrs. Haage and Schmidt, Erfurt." The specimen figured in the *Botanical Magazine* flowered the Royal Gardens at Kew in April of the present year (1874).

I am indebted to Messrs. Backhouse and Son for obligingly fo warding the plant from which the illustration is taken.

Romanzòvia belongs to the order *Hydrophyllàceæ*, which consis of elegant herbaceous plants, chiefly natives of North America, mo of them having blue, white, or pink flowers, and pinnate part leaves. Four of the genera included in it contain some of the mo beautiful of the Californian annuals, viz. *Phacèlia, Eùtoca, Nemóphil* and *Whitlàvia*. The species of *Hydrophy'llum* (Waterleaf) are pere nials, growing in marshes in North America, one species (*H. virgínicu* being used as a salad.



ARABIS BLEPHAROPHYLLA.



SAXIFRAGA AMBIGUA.

AND

ARABIS BLEPHAROPHYLLA SUPERBA.

PLATE XLIV.—FIG. I.

A'rabis blepharophy'lla, SIR W. J. HOOKER. The Californian Rock-Cress.
Natural Order—CRUCIFERÆ.* The Cruciferous Family.

THE genus *A'rabis* consists of low-growing annuals or perennials, with small white or (rarely) purple flowers. They are mostly natives of Europe and North America. Several are British species, but they have little beauty to recommend them. All the kinds which are worth cultivating thrive well in any good garden soil, and in almost any situation, but they are most suitable for planting on rockwork. They are readily increased by seeds, by cuttings, or by division of the roots.

The name of *A'rabis* is said to be derived from Arabia, the native country of some of the species, according to De Theis; but this appears to be a forced explanation, and scarcely the true root of the word.

A. blepharophy'lla is a hardy perennial, growing from six to ten inches high, and producing its bright rosy-purple flowers in April, May, and June. It is a native of San Francisco, in California, where it was first discovered by the late David Douglas in 1833, and subsequently it has been collected by several other collectors, who describe it as a great ornament in March on the hills of that State. Professor Asa Gray was, however, the first to send ripe seeds to England in 1865, "from which," Dr. Hooker says,† "plants were raised at Kew, but it was not till quite recently that the plants throve (from seeds sent by Commissioner Watt, of the Agricultural Department of Washington), and appeared in their full beauty." The species is most suitable for planting on rockwork, succeeding best in sandy loam.

I have to thank Messrs. Backhouse and Son for kindly forwarding the plant for illustration.

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* For the description of the order *Cruciferæ*, see vol. i., p. 30.

† In the *Botanical Magazine* for March, 1874.

SAXIFRAGA AMBIGUA.

PLATE XLIV.—FIG. II.

Saxifraga ambigua, **De Candolle.** **The Ambiguous Saxifrage.**
Natural Order—Saxifragaceæ.* **The Saxifrage Family.**

This very pretty Saxifrage has been recently introduced from Pyrenees by Messrs. Backhouse and Son, who state that it reseml *S. calyciflòra* in general appearance, but it is of rather stronger ha and has larger and more open rosettes of leaves. The flowers, wh are produced in clusters on stems three or four inches high in M and June, are yellow or of an ochre colour, with the calyces peduncles purplish with glandular hairs. Messrs. Backhouse think may possibly be a hybrid between *S. calyciflòra* and *S. aretiöides.*

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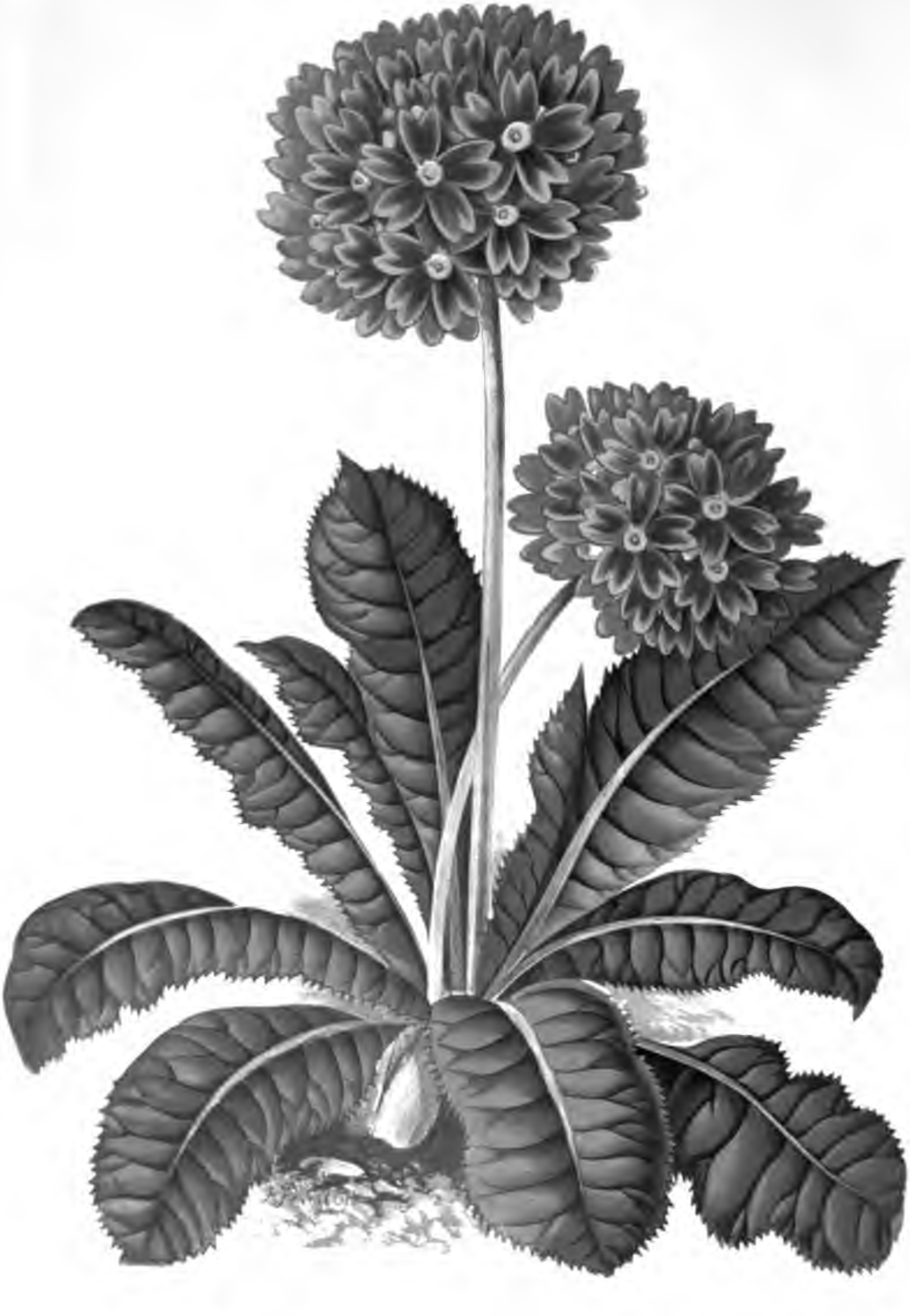
* The order *Saxifragàceæ* will be found described in vol. i., p. 40.



PRIMULA [illegible]

[illegible]

PRIMULA PULCHERRIMA.

PLATE XLV.

Prímula pulchérrima. The Fairest Primrose.
Natural Order—PRIMULACEÆ.[*] The Primrose Family.

THIS very lovely Himalayan Primrose belongs to the section containing *Prímula denticulàta:*[†] it was, indeed, originally received by Messrs. Backhouse and Son, of York, under the name of *P. denticulàta nàna.* The name under which it is here figured and described is that given to it provisionally by Messrs. Backhouse, who state that "it is taller and far more luxuriant than *P. denticulàta,* and has deep lavender-purple flowers with yellow centres and much larger trusses." From the plant usually known as *P. purpùrea,* Messrs. Backhouse say it is quite distinct; "though, judging by the colour," they add, "it has far more right to the name." It is most suitable for planting either on rockwork or in well-drained borders, in stiff loamy soil, flowering in spring, and proving perfectly hardy, which Messrs. Backhouse have found is not the case with the true *P. denticulàta.* It forms a striking and an effective plant, also, when grown in a pot.

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[*] For the description of the order *Primulàceæ,* see vol. i., p. 14.

[†] Already given in vol. i., p. 31.

[illegible]

[illegible]

XLVI

IBERIS JUCUNDA.

PLATE XLVI.—FIG. I.

Ibèris jucúnda. The joyous Candytuft.
Natural Order—CRUCIFERÆ.* The Cruciferous Family.

THIS is a very distinct and beautiful perennial species of Candytuft from Mount Taurus, in Asia Minor, with crowded linear fleshy leaves and terminal heads of bright purplish pink flowers. The plant forms dense erect tufts from four to six inches high, and continues in flower from April till June.

The figure in our plate is from a plant kindly forwarded by Messrs. Backhouse and Son, of York.

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* The order *Cruciferæ* will be found described in vol. i., p. 30; and for a description of the genus *Ibèris*, see p. 43.

VERONICA PROSTRATA.

PLATE XLVI.—FIG. II.

Verónica prostràta, Vahl. The Prostrate Speedwell.
Natural Order—Scrophulariaceæ.* The Figwort Family.

This is a hardy perennial species, found in France, Germany, It and Switzerland, with very brilliant blue flowers, which are produ in axillary racemes during the summer months. The plant forms tu six inches high, and it is very suitable for planting either on rockw or in the mixed border. It should be grown in good loamy soil, it may be increased by division or by seed.

There are several varieties, some of which have white and oth rose-coloured flowers.

I have to express my acknowledgements to Messrs. Backhouse Son for kindly forwarding the plant from which the figure in plate is taken.

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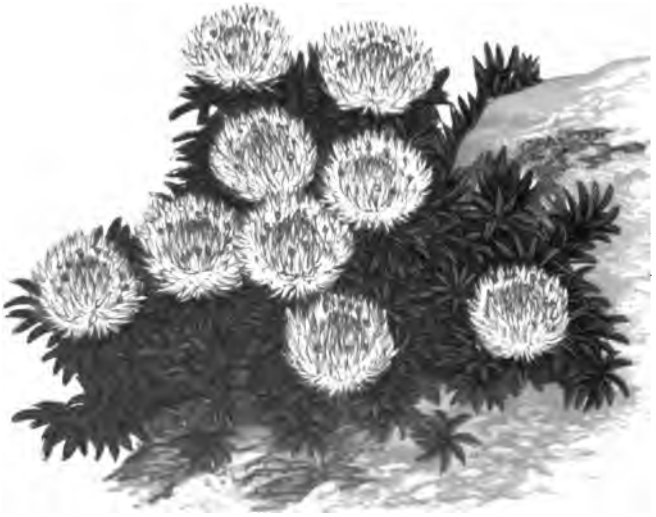
* The description of the order *Scrophulariàceæ* will be found in vol. i., p.



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ARABIS ANDROSACE.

PLATE XLVII.—FIG. I.

A'rabis Andrósace. The Androsace-like Arabis.
Natural Order—CRUCIFERÆ.* The Cruciferous Family.

THIS is a new species of *A'rabis* from the Eastern Alps, forming very dense silky tufts, very much resembling those of *Andrósace villòsa.*† The snow-white flowers are produced in clusters in April and May. The plant is very suitable for planting either on rockwork, or in the front of the mixed flower border, requiring sandy or calcareous soil. It may be increased either by seed or by division.

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* For the description of the order *Cruciferæ,* see vol. i., p. 30.

† Already given in vol. i., p. 109.

GLOBULARIA NANA.

PLATE XLVII.—FIG. II.

Globulària nàna, LAMARCK. The dwarf or Thyme-leaved Globularia.
Natural Order—GLOBULARIACEÆ. The Globularia Family.

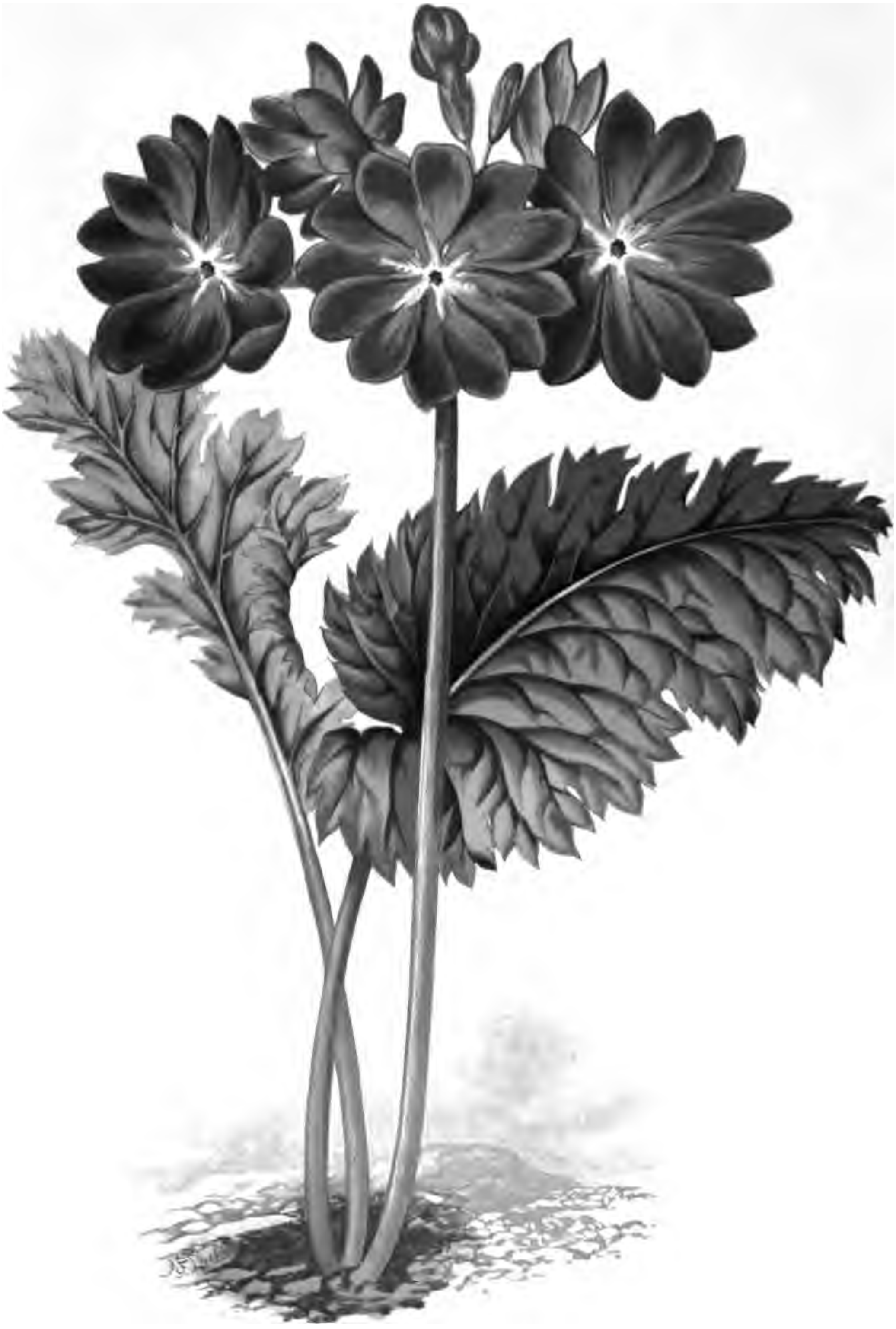
Globulària is a small genus, the species composing it being either herbaceous plants or small shrubs (natives of the countries bordering on the Mediterranean Sea), with alternate entire spathulate leaves, and with the flowers collected upon a common receptacle, and surrounded by a many-leaved involucre. There are four or five species which are not sufficiently hardy for the open air in the colder parts of this country, but these form very pretty objects when grown in pots, and they succeed very well in a mixture of loam, peat, and rough sand. The hardy species are most suitable for planting on rockwork. All the kinds are readily increased by division in the spring.

The generic name is given in allusion to the flowers being produced in globose heads.

G. nàna is a very dwarf trailing evergreen species, with masses of small bright green leaves, an inch or two above which the numerous heads of pale blue or lilac flowers appear in June and July. It is a native of the mountains of France, whence it was introduced in 1824.

My thanks are due to Messrs. Backhouse and Son for sending the plant for illustration.

Globulariàceæ is a small order of herbaceous or shrubby plants (natives of Europe, and of the parts of Asia and Africa nearest to Europe), with alternate exstipulate smooth leaves, and capitate flowers surrounded by an involucre. The calyx is five-cleft; the corolla is tubular, lipped, and five lobed; and there are four stamens, which are inserted into the upper part of the tube of the corolla. The fruit is enclosed by the calyx. The only genus besides *Globulària* is *Carradòria*, of which there is only one species, a native of the Italian mountains.



PRIMULA CORTUSOIDES AMOENA.

XLVIII

PRIMULA CORTUSÖIDES AMŒNA.

PLATE XLVIII.

Prímula cortusöìdes, LINNÆUS. The Cortusa-leaved Primrose.
Natural Order—PRIMULACEÆ.* The Primrose Family.

Prímula cortusöìdes is a very distinct species from Siberia (whence it was introduced in 1794), with bright green heart-shaped bluntly-toothed wrinkled leaves (resembling those of *Cortùsa Matthìoli*†), and deep rose-coloured flowers, which are produced in compact umbels on slender erect stems from May till July. In the winter it loses its leaves entirely, and forms a tuberous hybernaculum under ground, a circumstance the more necessary to be known, as it subjects the plant to be thrown away as dead. It is very suitable for planting on rock-work, succeeding best in rich sandy loam in a moist shady situation. It may be increased by seed and by division of the root.

If the very beautiful Primrose figured in our plate as *Prímula cortusöìdes amœ̀na* (the name given to it when it was first figured in the *Botanical Magazine* in 1865, soon after its importation from Japan, and that under which it is found in collections), is really only a variety of *P. cortusöìdes,* it is a very distinct one indeed, and so striking is it, with its large trusses of deep rose-coloured flowers, that it is very frequently grown in pots for the decoration of greenhouses and conservatories.

For an opportunity of figuring this extremely handsome plant I have to thank Messrs. Backhouse and Son.

There is also a variety with white flowers (*P. cortusöìdes amœ̀na álba*).

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* The order *Primulàceæ* will be found described in vol. i., p. 14.

† Already given in vol. i., p. 113.

MIC[illegible]LLA.

LEONTOPODIUM ALPINUM.

XLIX

MICROMERIA PIPERELLA.

PLATE XLIX.—FIG. I.

Micromèria Piperélla, BENTHAM. The Small Peppermint.
Natural Order—LABIATÆ.* The Labiate Family.

THE species composing the genus *Micromèria* are erect or prostrate branching perennials, with opposite leaves and axillary whorls of small pale purple or white two-lipped flowers, or with the flowers in terminal spikes. They may be readily distinguished by the tubular calyx being five-toothed, and having from thirteen to fifteen ribs. They are natives of the temperate and warmer parts of the world, occurring in the greatest abundance in the region of the Mediterranean.

The generic name is from *mikros*, small, and *meris*, a part.

M. Piperella is a pretty little Thyme-like plant with pale purple flowers, which appear in July and August, growing in tufts about six inches high, and very suitable for planting on rockwork. The soil for it should be sandy loam; and it may be increased by seeds and by cuttings.

I am indebted to Messrs. Backhouse and Son for kindly forwarding the plant from which the figure in the plate is taken.

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* For the description of the order *Labiatæ*, see vol. i., p. 64.

LEONTOPODIUM ALPINUM.

PLATE XLIX.—FIG. II.

Leontopòdium alpìnum, CASSINI. The Lion's Foot.
Natural Order—COMPOSITÆ.* The Composite Family.

THE *Gnaphàlium Leontopòdium* (from the Alps of Europe) and two closely allied species (from the mountains of Asia) have been formed into the genus *Leontopòdium* on account of their slightly differing from other species in the pappus. They are also distinguished by their dense clusters of flowers being surrounded by a radiating general involucre of floral leaves, all densely clothed with a close white cottony substance.

The name of *Leontopòdium* (from *leon*, a lion, and *pous*, a foot) is given in allusion to the heads of flowers having been fancifully likened to a lion's foot.

L. alpìnum is a perennial, growing from six to eight inches high, with oblong very woolly leaves, and pale yellow rather inconspicuous flowers, which are produced in June in a crowded head, surrounded by a star-like whorl of densely-woolly leaves. It is a native of the Swiss, Pyrenean, and Austrian Alps. Ray is said to have gathered it on one of the highest peaks of Mount Jura. With the Germans, who call it *Edelweiss*, it is very popular. It was introduced in 1776. It should be planted on rockwork in moist sandy peat in exposed situations. It may be increased by division.

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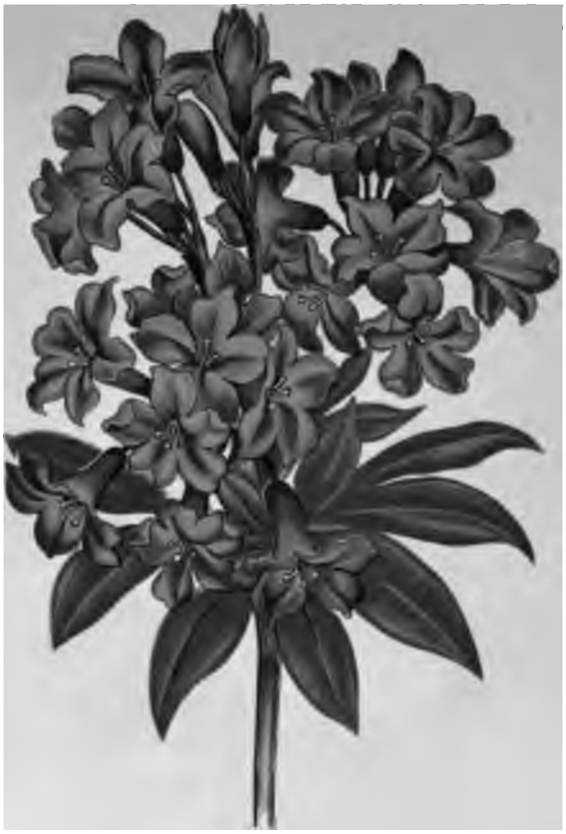
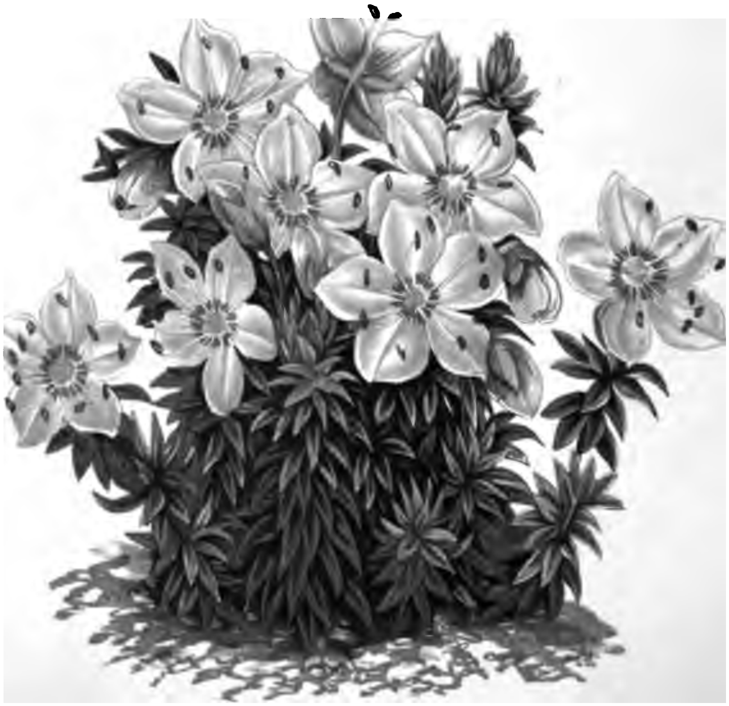
* The description of the order *Compósitæ* will be found in vol. i., p. 16.





RHODODENDRON FERRUGINEUM.

RHODODENDRON CHAMÆCISTUS.

L.

RHODODENDRON FERRUGINEUM.

PLATE L.—FIG. I.

Rhododéndron ferrugíneum, WILLDENOW. The rusty-leaved Rhododendron.
Natural Order—ERICACEÆ.[*] The Heath Family.

THE species forming the genus *Rhododéndron*[†] are shrubs or low trees (usually evergreen), with entire alternate leaves and clusters of very showy flowers. The corolla is somewhat funnel-shaped or campanulate, sometimes slightly irregular, and five-lobed; the stamens, ten in number (rarely fewer), are usually declined.

The species are natives of Europe, Asia, and North America. *R. däùricum* is a native of Siberia, and is almost peculiar to the subalpine tracts of Eastern Asia. *R. camtscháticum* is an elegant undershrub, found abundantly in the peninsula of Kamtschatka and the Aleutian Islands, in muddy places on the mountains. *R. caucásicum* grows on the higher rocks of the Caucasus, near the limits of perpetual snow, in the highest range of shrubby vegetation. *R. chrysánthum* is, like *R. däùricum,* a native of the alpine regions of Siberia. The well-known *R. pónticum* is a native of Pontus (now Armenia), in Asia Minor. *R. punctàtum, R. máximum,* and *R. catawbiénse* are North American species. It is, however, in India that the species are most abundant: *R. arbòreum* is from Nepal; Dr. Hooker discovered more than forty species in the Sikkim Himalayas; and some have also been found in Assam and Bhotan by Mr. Booth.

While several of the species are low prostrate shrubs (as *R. lappónicum* and *R. camtscháticum*), others are rather large trees (as *R. arbòreum, R. Rollissònii* of Ceylon, and two from Sikkim, viz. *R.*

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[*] For the description of the order *Ericàceæ,* see vol. i., p. 23.

[†] From *rhodon,* a rose, and *dendron,* a tree; because the flowers resemble in colour bunches of roses.

argénteum and *R. Falconèri*). Again, some are epiphytes, with large fleshy roots, growing on the stems of other plants (as *R. Brookeànum* of Sarawak).

Many of the hardy species and varieties have long been extensively planted on lawns and in pleasure grounds and shrubberies, where they form most striking and beautiful objects; while the species from the Sikkim Himalayas, and others which are not sufficiently hardy for the open air, are not less striking and effective in greenhouses and conservatories.

R. ferrugíneum (the Alpine Rose) is a spreading evergreen shrub, seldom growing more than a foot or eighteen inches high, and perfectly hardy. It is a native of the Alps of Switzerland, Austria, Savoy, Dauphiné, and Piedmont; where this species and *R. hirsùtum* (also called the Alpine Rose) terminate ligneous vegetation, and furnish the shepherds with their only fuel. It was introduced in 1752. The oblong leaves are shining and green above, but thickly beset with rusty dots beneath. The flowers, which appear from May till July, are of a beautiful rose-colour or scarlet, disposed in umbellate corymbs, and they are sometimes marked with ash-coloured or yellow dots. The soil for it should be peat (about six inches in depth), or a mixture of peat and loam; and it may be increased by layers.

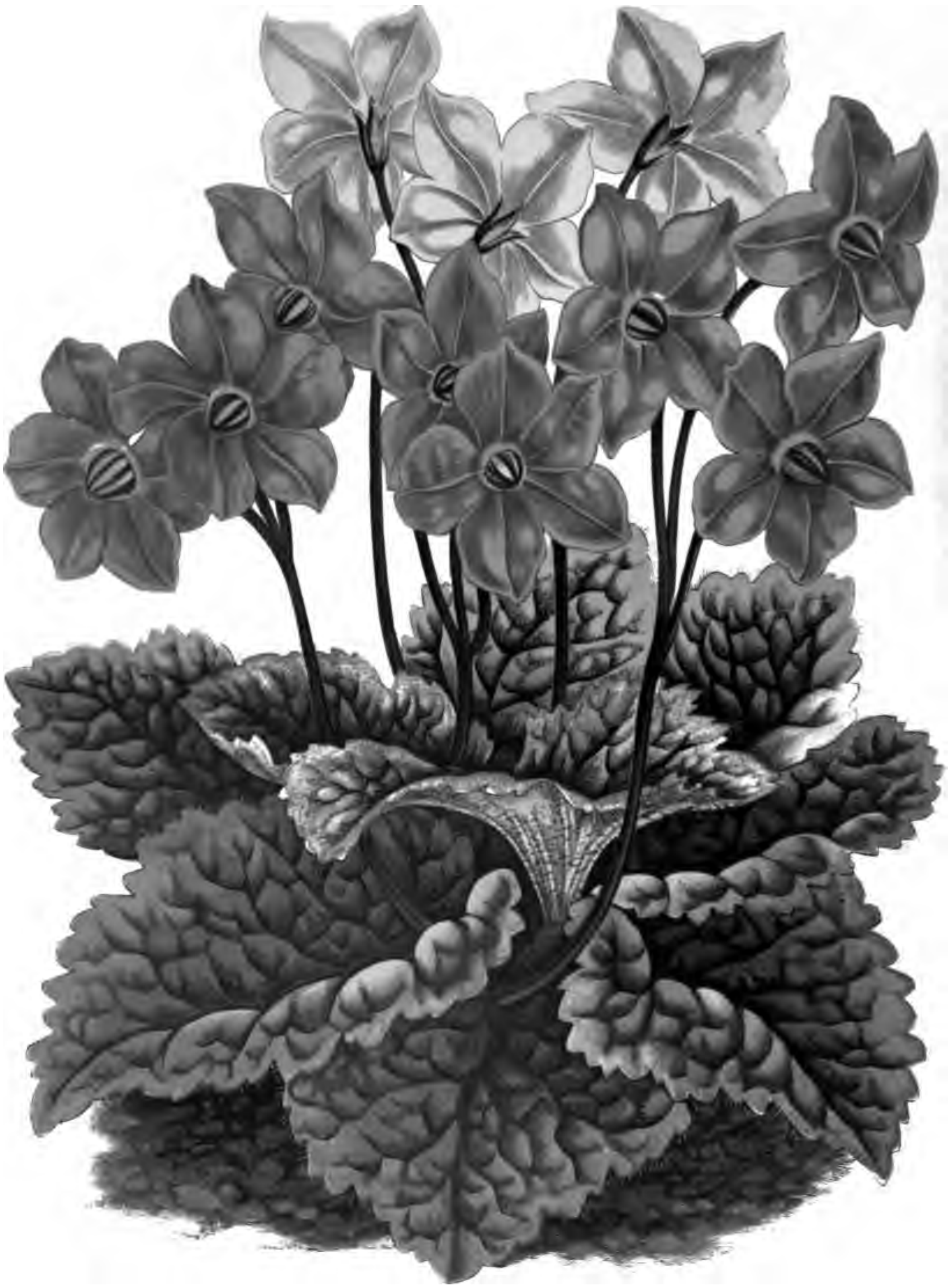
There is a variety with white flowers (*R. ferrugíneum álbum*).

RHODODENDRON CHAMÆCISTUS.

PLATE L.—FIG. II.

Rhododéndron Chamæcistus, Willdenow. The Thyme-leaved or Ground-Cistus Rhododendron.
Natural Order—Ericaceæ. The Heath Family.

This is a dwarf evergreen shrub, growing in tufts about six inches high, with small ovate fleshy leaves and beautiful delicate pink flowers, which appear in May and June. It is a native of the Alps of Austria, and was introduced in 1786. It may be planted either in beds of very dwarf shrubs, or in limestone fissures on rockwork. The soil should be a mixture of peat, loam, and sand. It may be increased either by seeds or by layers.



RAMONDIA PYRENAICA.

LI

RAMONDIA PYRENAICA.

PLATE LI.

Ramóndia pyrenàica, Willdenow. The Pyrenean Ramondia.
Natural Order—Solanaceæ.* The Potato Family.

This, the only species of the genus, was formerly called *Verbáscum Mycòni.* It is a perennial, found growing on rocks in the Pyrenees and also in the Piedmontese Alps. The rough dark green root leaves form dense rosettes, from which the flower stems spring, each bearing from one to six flowers, of a pinkish lilac colour. The plant begins to flower in May, and it continues producing a succession of flowers for some time. It is most suitable for growing on rockwork, but it may also be planted in the front of the flower border, the soil best suited to it being moist peat mixed with sandy loam and grit. It may be increased either by seed or by division of the roots.

The generic name was given in honour of M. L. Ramond, a French botanist, who travelled in the Pyrenees about the year 1800, and published an account of his journey.

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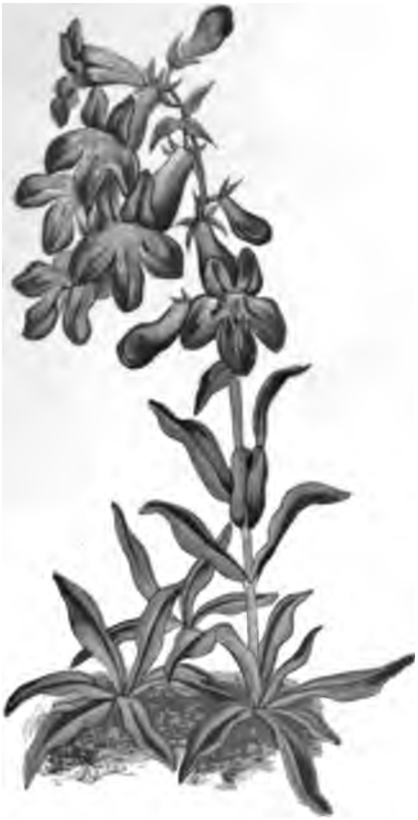
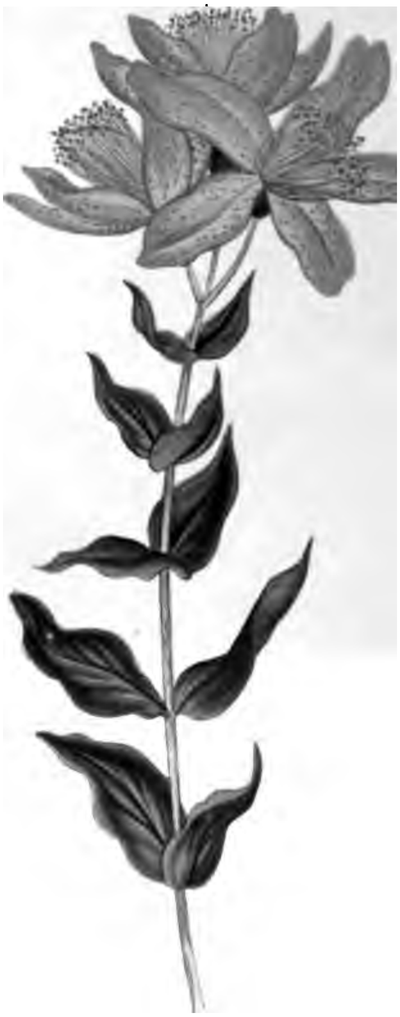
* The order *Solanàceæ* will be found described in p. 15 of this volume.



PENTSTEMON HUMILIS.



HYPERICUM BURSERI.

PENTSTEMON HUMILIS.

PLATE LII.—FIG. I.

Pentstèmon hùmilis. The low Pentstemon.
Natural Order—SCROPHULARIACEÆ.* The Figwort Family.

THIS very pretty new species of *Pentstèmon* from the Rocky Mountains grows from six to nine inches high, with dense clusters of flowers of the most delicate azure blue. It is suitable both for planting on rock-work and in the flower border.

The figure in our plate is taken from a plant kindly forwarded by Messrs. Backhouse and Son, of York.

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* The description of the order *Scrophulariàceæ* will be found in vol. i., p. 4.

HYPERICUM BURSERI.

PLATE LII.—FIG. II.

Hypéricum Búrseri, SPACH. Burser's St. John's Wort.
Natural Order—HYPERICACEÆ.* The St. John's Wort **Family**.

THIS is a rare dwarf Pyrenean species with bright yellow flo which appear from July till September. It is very suitable for pla on rockwork. It may be increased by division.

For an opportunity of figuring this plant I have to express thanks to Messrs. Backhouse and Son.

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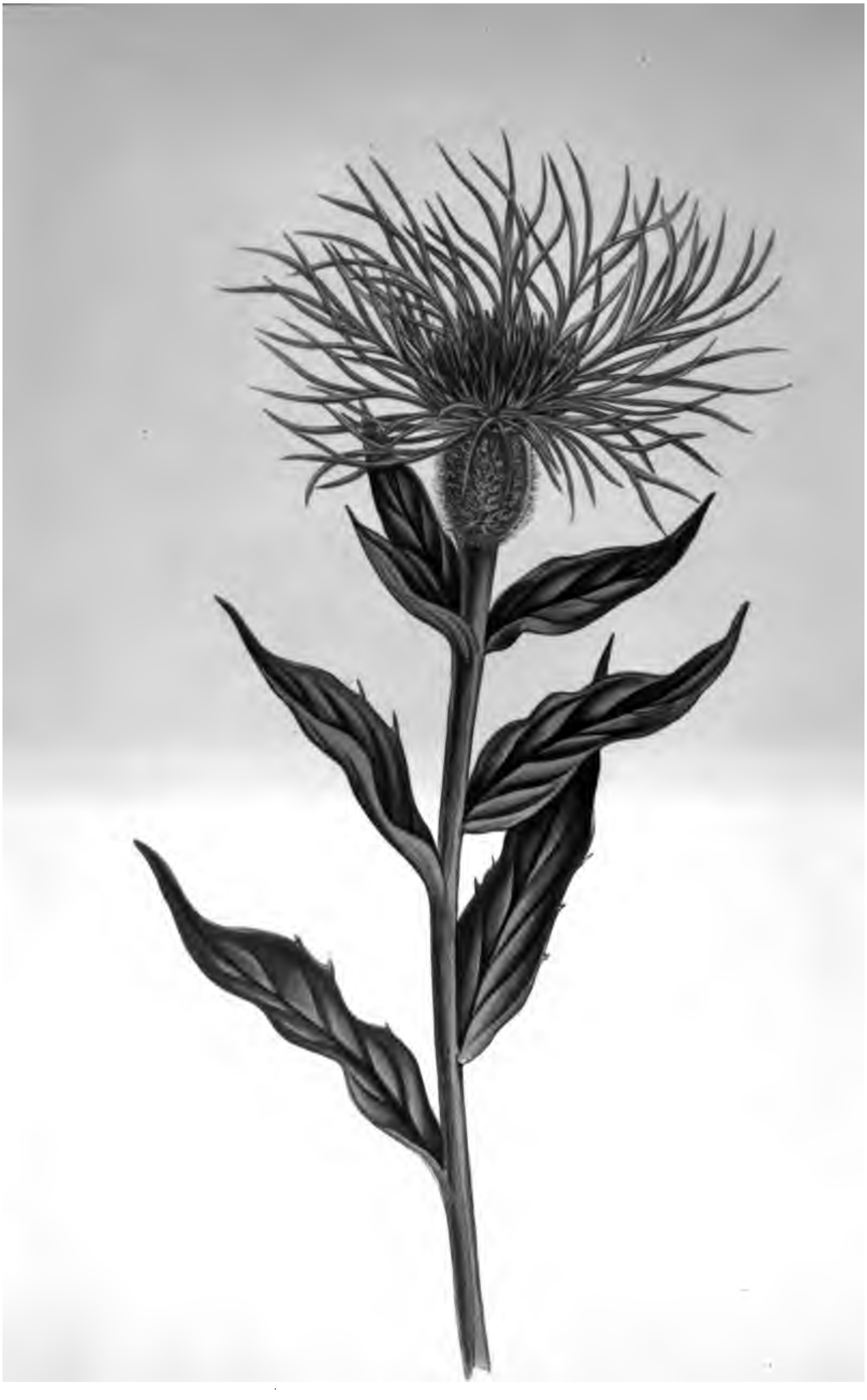
* The order *Hypericàceæ* has been already described in vol. i., p. 11.



CENTAUREA PHRYGIA.

LIII

CENTAUREA PHRYGIA.

PLATE LIII.

Centaurèa phry'gia, WILLDENOW. The feathery-calyxed Centaury.
Natural Order—COMPOSITÆ.* The Composite Family.

Centaurèa is a large genus, some of the species being annuals, some biennials, a large proportion perennials, and two or three somewhat shrubby. Most of the species are natives of Europe and Asia, several of Africa, and a very few of America. Several are well-known British plants, as, for example, *C. nìgra* (the Black Knapweed); *C. Cyànus* (the Blue-bottle or Cornflower), which is not only a common weed in corn-fields, but also a popular border annual; *C. Scabiòsa* (the Greater Knapweed); *C. Calcitràpa* (the Star Thistle); *C. benedícta* (the Blessed Thistle), so called from its being formerly supposed to possess extraordinary medical powers; and *C. solstitiàlis* (St. Barnaby's Thistle). One of the annual species is the Sweet Sultan (*C. moschàta*), a native of Persia, which is often found in gardens. Two of the perennial species, remarkable for their deeply cut silvery leaves, have been employed with good effect in planting beds in flower gardens, viz. *C. ragusìna* (a native of Candia) and *C. candidíssima* (a native of the Levant). The perennial species having the most striking flowers are *C. montàna* (a native of the German Alps), with large blue flowers, introduced in 1596, and *C. ochroleùca* (a native of Mount Caucasus), with large pale yellow flowers, introduced in 1801.

The genus takes its name from the legend that the Centaur Chiron used the juice of one of the species medicinally.

C. phry'gia, one of the perennial species, is a native of Switzerland (whence it was introduced in 1633), growing from a foot to eighteen inches high, and producing its purple flowers from June till October.

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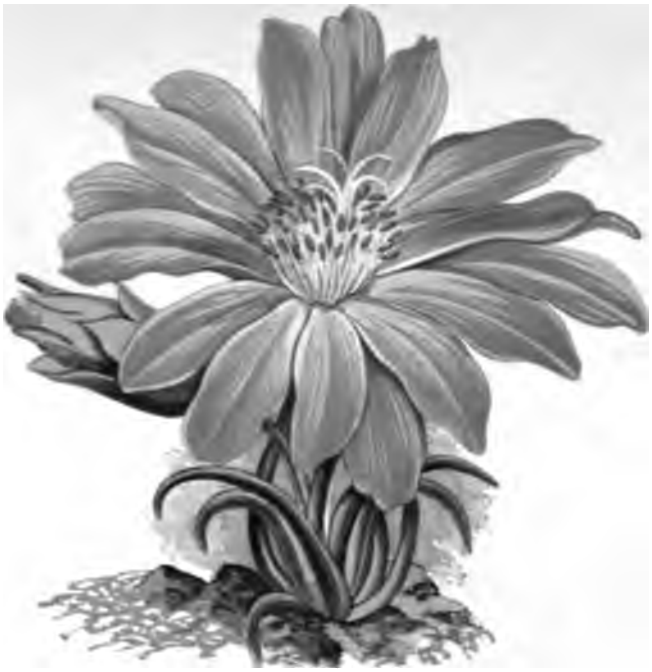
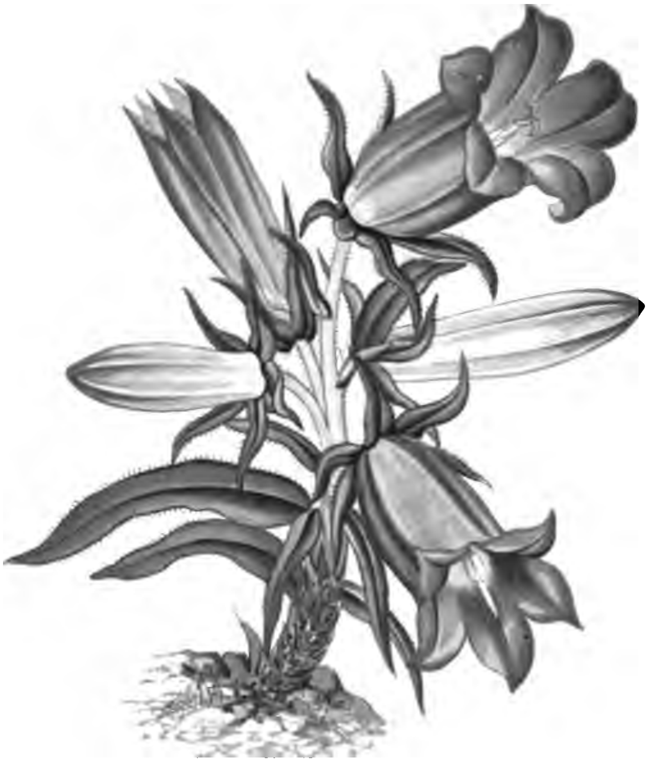
* The order *Compósitæ* will be found described in vol. i., p. 16.

It should be planted in rich sandy loam in the mixed border. It may be increased by division.

I have to express my acknowledgements to Messrs. Backhouse and Son for the opportunity of figuring this plant.





LEWISIA REDIVIVA.

CAMPANULA [illegible]

LIV

LEWISIA REDIVIVA.

PLATE LIV.—FIG. I.

Lewisia rediviva, PURSH. Spat'lum, or Reviving Lewisia.
Natural Order—PORTULACEÆ.[*] The Purslane Family.

OF the very singular genus *Lewisia* there is only one species—*L. rediviva*, the Bitter-root plant or *Racine amère* of the Canadians, the Spatulum or Spæt'lum of the Indians of North-west America, by whom the roots are largely collected, and very generally kept dried in bags, as, being composed almost entirely of starch, they afford a wholesome though bitter-tasted food. These roots, when fresh, are covered with a dark brown skin, and are of a bright red colour within, but when skinned and dried for preservation they are nearly white.

This extremely curious plant, which is a native of the Upper Oregon Territory,[†] is a stemless perennial, with a thick fleshy tapering root, from the summit of which arise numerous succulent green leaves (two inches in length), and, in the centre, fleshy stalks (an inch or two in length), jointed below the calyx, and bearing one or two rose-coloured flowers, each flower being surrounded by an involucre of from five to seven narrow scales or bracts. The flower has a persistent calyx of from six to seven imbricated unequal segments, a corolla of from eight to ten spreading petals, numerous stamens, and a one-celled ovary, in which respect it differs from allied genera.

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[*] The order *Portulàceæ* has been already described in p. 32 of this volume.

[†] Sir W. J. Hooker states in the *Botanical Magazine* for 1863 that "it is now ascertained to be a native of California, probably far in the interior, and on the high mountains; but that is not stated by Dr. Kellog, who has given an excellent figure of a white-flowered variety in the *Proceedings of the Californian Academy of Natural Sciences* for 1861, t. 36."

The generic name was given in honour of Captain M. Lewi accompanied Captain Clarke to the Rocky Mountains. And tl cific name, *rediviva*, was given by Pursh in consequence of th long preserved in the herbarium, and apparently dead, havin planted, revived in a garden in Philadelphia.*

With regard to this very singular and beautiful Alpine,] Backhouse state that it "proves to be of very easy culture or parts of rockwork which do not get direct sunshine. Its delica beautiful rosy-pink flowers, which are each three inches acro produced in the greatest profusion towards the end of spring which the plant dies down and rests till the moisture and c of the following autumn and winter months stimulate it for growth. Its rosettes of leaves resemble those of the common but are larger and more fleshy." Messrs. Backhouse add tha "easily cultivated in pots, if kept from sunshine, or on a border if very well drained."

It is found that a good soil for this plant is a mixture o loam, sandy peat, and brick rubbish. It may be increased by d the roots or by seeds.

Messrs. Backhouse and Son, of York, were so good as to f the plant from which the figure in our plate was taken.

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* In the *Botanical Magazine* for 1863, Sir W. J. Hooker says: "We ha selves had dried specimens, preserved two or more years in the herbariu sending up crops of leaves. The specimen from which our figure" [that volume of the Magazine above referred to] "was taken at Kew, is one o which, when gathered with a view of being preserved for the herbari British Columbia, by Dr. Lyall, R.N., of the Boundary Expedition, was im in boiling water, on account of its well-known tenacity of life. More year and a half after, it notwithstanding showed symptoms of vitali produced its beautiful flowers in May of the present year [1863], in the Gardens of Kew."

CAMPANULA LONGIFOLIA.

PLATE LIV.—FIG. II.

Campánula longifòlia, Picot de la Peyrouse. The long-leaved Bell-Flower.
Natural Order—Campanulaceæ.* The Bell-Flower Family.

This is a scarce species from the Pyrenees, growing from six to twelve inches high, and resembling a dwarf Canterbury Bell. The root-leaves, which are very long and narrow, form rosettes. The flowers, which appear in June and July, are of a beautiful violet colour: they are produced singly in the axils of the leaves, sometimes as many as eight or nine on one stem.

My thanks are due to Messrs. Backhouse and Son, of York, for kindly forwarding the plant for illustration.

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* The order *Campanulàceæ* will be found described in vol. i., p. 8.

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